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THE PROCESS OF TRANSITION:

BECOMING LEGITIMATE PERIPHERAL
PARTICIPANTS IN THE PRACTICE OF SEAFARING

by

Ila S. Bharatan

A thesis submitted in partial fulfilment

of the requirements for the degree of Doctor of Philosophy

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Table of Contents

List of Tables

List of Figures

Acknowledgements

Declaration

This thesis is submitted to the University of Warwick in support of my application for the degree of Doctor of Philosophy. It has been composed by myself and has not been submitted in any previous application for any degree. All data collection and analysis was performed by me.

Ila S. Bharatan

Warwick Business School

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Abstract

My thesis seeks to develop the theory of legitimate peripheral participation by focusing on how it is accomplished in practice, through exploring the process of transition from novices to (relative) masters. In doing so, the study opens the black box of participation in studies of situated learning and focuses on two aspects that lead to a further development of legitimate peripheral participation. First, it looks at how newcomers undergo legitimate peripheral participation at two sites of practice and how movement between the sites influences the process of transition. Second, it focuses on the ways in which newcomers negotiate access to participation at a site where such access is not readily available.

The research was conducted as a five-month multi-sited ethnographic study in the maritime industry; as such it focuses on the process of transition from cadets (newcomers) to officers (relative old-timers). Two research sites were used for conducting the ethnographic study, a maritime training center, and a merchant shipping vessel. Analysis of the data collected through observations and interviews at the two sites reveals key insights into the practical accomplishment of legitimate peripheral participation. The study shows the influence of movement between sites of practice and theorizes transition as an episodic process. Furthermore, the study explores the ways of doing through which newcomers are able to successfully negotiate access to participation. As such it develops a practice-sensitive concept of proactivity as a way of negotiating access to participation. Overall the thesis develops a more nuanced understanding of participation and shows how legitimate peripheral participation is accomplished in practice.

Abbreviations

COP	Community of Practice
COLREGS	Collision Regulations
CCTC	Crewco Training Center
ECDIS	Electronic Chart Display and Information Systems
EMSA	European Maritime Safety Agency
ETA	Estimated Time of Arrival
GMDSS	Global Maritime Distress and Safety System
IMO	International Maritime Organization
ITTD	Interview to the Double
LPP	Legitimate Peripheral Participation
MV	Motor Vessel
STCW	Standards of Training, Certification and Watch-keeping for Seafarers
VTIS	Vessel Traffic Information Service

1 Introduction

My thesis seeks to develop the theory of situated learning by focusing on the process of transition and how this is practically accomplished (Gherardi, Nicolini & Odella, 1998). It was empirically conducted over five months as a multi-sited ethnographic study (Marcus, 1995) in the maritime industry. Situated learning has tried to provide an alternative to cognitive theories of learning (Levine, 1975; Scribner & Cole, 1978) and, in doing so, has opened the arena for thinking of learning as a social phenomenon. Situated learning theory explains the learning through legitimate peripheral participation (LPP) in traditional apprenticeships (Lave & Wenger, 1991; Fuller & Unwin, 2004; Marchand 2008).

This research uses a practice-based lens to develop theory on the process of transitioning as legitimate peripheral participants – an aspect of situated learning that has received little attention to date. By focusing on the practices of seafaring, my study seeks to understand the practical accomplishment of LPP by looking at the transition of new entrants to the practices of seafaring from cadets (newcomers) to officers (relative old-timers). The study looks at two aspects of LPP. First, it looks at how newcomers go through LPP at two sites of practice that are critical transition points and at the influence of the movement between the sites on their learning. Second, it looks at the ways in which newcomers negotiate access to participation in a site where such access is not initially available. Consequently, it sees participation that is made, not given, and explores how participation is practically accomplished.

1.1 Theoretical Underpinning of the Research

Learning as LPP is a way of learning within a community of practice (COP) and becoming a member of the COP (Wenger, 2009). It is seen as a form of achieving mastery that is expressed through practices (Nicolini, 2013: 5). Here the identity of becoming a master is closely tied to the 'capacity to carry out a social and material activity' (Nicolini, 2013: 5). The research explores learning from a practice perspective (Gherardi, 2001; Orlikowski, 2002) in order to understand the period of transition within the LPP process from a newcomer to the practice towards a fuller participant of the practice.

From a situated learning perspective, people learn through LPP in the practices of a community (Lave & Wenger, 1991). Per LPP, novices learn through observing the activities (the doings and sayings) around them, taking (initially limited) responsibility for tasks, within a community of practitioners; in doing so they go on a path towards full participation which is mastery of the practice (Lave & Wenger, 1991). From the practice perspective 'knowledge resides in social relations, and knowing is part of becoming an insider in a community of practice' (Gherardi, 2001: 133). People involved in the same practices, that share historical, situated processes and materials can create a community of practitioners. That is, through participating in practices, participants create a 'sense of community' and the 'inevitable conflicts and power struggles' (Gherardi et al., 1998: 278). Practices are understood to be socio-materially mediated regimes of doings and saying which have a history shared by a group of practitioners working towards an identifiable end (Nicolini & Monteiro, 2017). My thesis aims to understand the practical accomplishment of LPP through focusing on the process of transition. Process is understood, here,

as the ways of doing that are embedded in practice. The process of transition refers to the ways of doing which enable newcomers to progress through LPP within a COP.

The key aspect of learning in practice is the notion of participation because it is through legitimate peripheral *participation* that newcomers can engage in the practices of a COP (Lave & Wenger, 1991; Billet, 2004; Gherardi 2016). Yet, participation has become something of a "black-boxed" concept within theories of situated learning. That is to say, scholars of situated learning (Gherardi et al., 1998; Handley, Fincham, Clarke & Sturdy, 2007, Tanggaard, 2007; Chan, 2015) have been content to use the formulation of participation understood by Lave and Wenger (1991) that newcomers learn through observing, imitating, peripheral participation requiring small amounts of responsibility, and progressing to larger levels of responsibility, rather than critically reflecting on the concept of participation. There has been a move, recently, to develop critical insight into participation. For example, Ribeiro (2012) and Ribeiro and Lima (2015) look at different forms of participation and levels of immersion in practice. However, there remains space for further exploration on how participation in practice is accomplished. It is through delving further into the concept of participation and how it is *done* in practice that my thesis hopes to make its contributions. Prior to that, it is important to also gain an understanding of the methodological foundations of my study.

1.2 Methodological Approach

Practice based studies focus on day-to-day activities used routinely to accomplish work in organizational settings. As Nicolini (2013: 2) maintains, 'The appeal of … a practice based approach lies in its capacity to describe important features of the world we inhibit as something that is

routinely made and re-made in practice using tools, discourse and our bodies.' This focus on the routine and the day-to-day activities calls for a methodological approach suited to bring the practices to the fore. Hence, studies using the practice lens prefer using ethnographic methods to gather and present data. As Gherardi and Nicolini (2002: 198) state 'the capacity of observing learning-in-practice cannot be separated from the choice of ethnography as the method of inquiry.' This sentiment is also echoed in Lave's (2011: 22) work on critical ethnography where she states that the 'everyday conduct of inquiry into everyday practice offers critical resources to the ethnographer so minded that are more difficult to arrange in other methodological genres.' Ethnography as a choice in my study becomes a valuable tool to try and understand the transition from a novice to relative-master through participation in the COP. In the LPP process, this transition takes place through participation in the day-to-day work, socio-cultural and socio-material practices. Hence, in order to study LPP, one must be able to get close to the sites of practice where newcomers participate.

While I began with the general idea to study communities of practice and the practice of legitimate peripheral participation, the study in its current form came about through exploratory, inductive research within the maritime industry. The impetus for choosing the maritime industry as a place to explore the process of transition was twofold. First, interest in the industry rose from reading Lave and Wenger's (1991) example of the legitimate peripheral participation of quartermasters and Hutchins' (1993/2010, in press during 1991) work from which Lave and Wenger took their case. This provided a rationale that the related maritime industry might be suitable to explore legitimate peripheral participation. Second, within organizational studies and management literature, the maritime industry is relatively under-researched. Hence, it was perceived as an interesting and insightful industry to explore.

Casting a critical eye on our surroundings reveals traces of an industry that is largely unnoticed in our everyday lives, the clothes we wear, the furniture in the room, the coffee we have in the morning, the computers on which we work. At least one thing that we consider as a regular part of our daily existence has at some point in time been at sea on a merchant vessel. In understanding the process of transition, this research also seeks to tell the story of the young novices to this community who, through want or necessity, have decided to head to sea in order to make a living, as they progress towards becoming masters of their practice. Accounting for almost ninety per cent of global goods trade (International Maritime Organization, n.d.) the maritime industry makes for an interesting site to conduct an ethnographic study of situated learning. The international nature of the industry and the dangers of life at sea have made learning and formal training in this industry critical. Furthermore, there is a spatial containment of work practices, especially on board the ship, which makes it marginally easier to observe the, usually difficult to capture, nuances of practices.

1.2.1 Background to Research Sites

The research draws on a detailed study of the practices of navigational officers training and working on container vessels within the maritime industry. In particular, it analyses how deck cadets (newcomers) gain access to participation in the on-board practices on the ship as they seek to become officers (fuller participants). Because of the nature of the research parameters and the practice lens a multi-sited ethnography was the best-suited choice of method (Marcus, 1995). The research was conducted as a five-month multi-sited ethnographic study within a shipping organization at two research sites, a training center, CCTC, and a ship, MV Sea-line.

Both the research sites used in my study came from one company – Crewco (pseudonym) which is associated both with a training center in Manila,

Crewco Training Center (CCTC, pseudonym) and a ship, MV Sea-Line (pseudonym). Crewco acts as a third-party crew manager. They take on the responsibility of sourcing, managing, and looking after the crew while on board the ship and get them safely home once they finish. Currently, Crewco manages the crew of 1,100 ships and 13,000 seafarers, approximately. Considering that one of the industry statistics is that eighty per cent of all accidents on board are caused by human error, the company has to ensure safe working environments on board (Dhillon, 2007). Therefore, learning and training is a large part of what they do in the organization.

CCTC is a maritime training center in Manila that provides training courses for the Filipino Crewco cadets and officers. Crewco initially created CCTC to address training deficiencies within the national maritime training system in the Philippines. The cadets who come to CCTC are selected from maritime colleges around the Philippines. They are enrolled in the three-year deck cadet program at the CCTC training center in Manila where they undergo ten months of shore-based training interspersed with two periods of sea-time training lasting between eight-ten months. At CCTC cadets learn the theory of the practices of navigation, such as Bridge Resource Management, Cargo Management, Practical Seamanship, Ship Simulator Training and Chart-work among others.

MV Sea-line is a container ship that sails from Rotterdam to Le Havre stopping at Bilbao and Gijon as well. She is one of the many ships under Crewco management where cadets spend their sea-service contracts in order to gain practical experience of work and life on board. MV Sea-Line was a small feeder vessel, with a crew of twelve on board. During the month I spent there, there were two deck cadets on board. On board the vessel, the cadets participate in the day to day working of the crew and seek learning opportunities on the bridge. Their training is supervised by the

training officer on board (chief officer) as per the Standards of Training, Certification and Watchkeeping (STCW) regulations and the daily training record books. If the cadets complete their sea-service contracts, they receive letters of recommendation from the captain on board and can continue to next phase of their training at CCTC.

1.2.2 Employing the Data Collection Tools

At CCTC the focus of observations was on the training courses that the cadets undertook during their three- or four-months' stints at the training center. Initially, the training sessions were observed from 0800-1700 every day, and this gradually decreased as data saturation was reached. The focus of the observation sessions was to look at the theoretical information that the cadets needed to know, as well as their participation opportunities. During the interviews; the focus was on their learning and training experiences. The semi-structured interview format allowed the cadets and the officers to share their experiences and what they thought to be important in the learning process. The interviews focused both on their training experiences at CCTC, at the maritime colleges and if they were in the second or third block, then also their sea-service experiences.

On MV Sea-Line the idea was to spend time observing the work and life at sea. The observation sessions included observation of navigation practices. For example, watch-keeping of officers, berthing and un-berthing at the port, master-pilot interactions, approach and departure from port, anchoring, and drills, the interaction of officers during meal times, communication of crew and officers, work practices of the cadet on the deck and the bridge. The data collected also includes personal notes of experience on board, documents and interviews with all crewmembers. In both research sites, semi-structured interviews and observations were used

to understand the process of transition from a cadet towards becoming an officer.

The data were collected using non-participant observation and interviews. Formal observations were supplemented with informal observations that look place through spending 24/7 at the research sites for five months. Additionally, interviews were carried out with seafarers from all ranks. The data gathered, was analyzed using inductive thematic analysis (Thomas, 2006). Accordingly, during and after the data collection phase, two years were spent, iteratively analyzing data and conducting a review of the literature.

1.3 Research Objectives

Through exploring the process of transition, the study contributes to two underexplored aspects of situated learning. First, it looks at how movement between different sites of practice, (the training center and the ship) influences newcomers' learning. Movement between sites is an important space for reflection today because, unlike traditional apprenticeship settings (Marchand, 2008; Lave 2011), newcomers often do not learn within a single site. Many newcomers join their professional community post-university or vocational training school (Fuller & Unwin, 2004). When they come to the workplace, there are marked differences between what they have learned previously and what they are supposed to do in the workplace. For example, within business schools, this has led to questioning of the relevance and effectiveness of the schools regarding preparing their students (Pfeffer & Fong 2002). The disconnect is not only within business schools; recently, Seaways magazine (Haughton, 2017: 25) critiqued on the model courses provided by the International Maritime Organization (IMO) 'Model Course World' is a perfectly binary scenario, where they are definitive right and wrongs, blacks and whites…This is not the way the real

world operates…how on earth are students expected to develop their own initiatives and critical senses if they are being trained in a system devoid of uncertainty.' My study seeks to explore how newcomers navigate their transition through learning at these different sites of practice by looking at the influence of movement between sites of practice on learning. Hence it seeks to explore the differences, tensions, and conflicts that arise from the movement and how these influence the process of transition.

Second, theories of legitimate peripheral participation state that it is through access to resources, old-timers, and participation that newcomers can transition from peripheral to full participation (Lave & Wenger, 1991, Wenger, 1998, Gherardi & Nicolini 2002). In this sense, access to participation seems to underpin legitimate peripheral participation. That is, if access to participation is made possible, newcomers can progress through legitimate peripheral participation, and if access is not available, newcomers are unable to become legitimate peripheral participants (Lave & Wenger, 1991; Handley et al., 2007). Yet, typically, access to participation is treated as 'given' (Lave, 1991), or conferred by the situation; quite how newcomers practically accomplish access to participation in complex organizational settings is not well understood. My study problematizes this aspect of participation by looking at how newcomers negotiate access to participation in a site where such access is not 'given'. My study presents a site of practice such participation opportunities were not given. Hence, it explores how newcomers in such a site negotiated access to participation. Through multi-sited ethnographic research, two empirically driven research questions form the guiding parameters of the study:

1. **How does movement between sites of practice influence the process of transition from newcomer to full participant?**

2. **How do newcomers gain access to increasing levels of participation in a community of practice?**

1.4 Intended Theoretical and Practical Contributions

My study intends to primarily contribute to literature on situated learning and practice theory as well as to the literature on organizational learning in organizations where formal training is coupled with periods or practice. Through answering the research questions, it hopes to shed light on the processes of transition and the practices entailed. By zooming out and in (Nicolini, 2010a) on the practices of seafaring, it seeks to develop two key theoretical insights. First, it aims to develop the theory of LPP by focusing on how newcomers navigate multiple sites of practice and how the practices at these sites influence their transition. In doing so, it seeks to show connections and contestations that need to be navigated by newcomers as they undergo the process of transition. As such, it develops a multi-sited view of LPP and explores how LPP is shaped by movement between sites. Second, through zooming in on the practices of seafaring, the study looks at how newcomers negotiate access to participation. Focusing on access negotiation reveals the nuances of the practical accomplishment of LPP. The study reveals the ways of doing required to negotiate access and how these ways of doing enable the process of transition. Through looking at the process of transition in practices of seafaring, the study also contributes to the broader practice-based theories by showing how process and practice can be used together to develop a better understanding of the phenomenon - in this case, learning. As such it seeks to develop a process-sensitive way of studying learning in practice.

Regarding practical contributions, this research hopes to explore how cadets/trainees develop seamanship. Furthermore, it seeks to understand how transition is accomplished in their day-to-day practices and their interactions with other members of the community of practice, be it at the maritime institutes, or on board ships. Following the career trajectory of cadets from the maritime institutes through to the ships will also help better understand the debate and tensions between onshore and traditional on-board training to see the effectiveness of training on skill development. This will contribute to understanding the influence of the experts in the COP, mentors, teachers and captains on the participation and learning of the cadets. Right now, the maritime industry, as with many others, is facing the challenge of employability and retention of new officers. With a rapidly changing workforce, it is important to understand how the skills of seamanship are developed and I hope that my research can contribute to exploring this topic further at a crucial time. The analysis has the potential of helping shipping companies and maritime institutes to steer their training programs towards improving the employability of cadets.

1.5 Thesis Structure

The rest of thesis is structured as follows:

Chapter 2 provides a review of the theoretical underpinnings of the research. It outlines the key points of LPP as developed in previous literature and the related notion of COPs. It then explores the understanding of performances, practices and processes that ground the concept of the process of transition as embedded in practice. It delves into aspects such as sites of practice, learning in practice and participation which provide the context for exploring the process of transition. It uses participation as a platform to problematize elements of the current theory of LPP and shows the two areas of learning through movement and access negotiation as

aspects in LPP theory that require further exploration before reiterating the research questions.

Chapter 3 explains the methodological logic of the research and how aspects of the methodology such as research design, data collection, and analysis were used in practice. The research is grounded in Heideggerian existential onto-epistemology which forms the philosophical underpinning of the research. Using this basis, the research design of the multi-sited ethnography is explained. The research setting of the maritime industry and its suitability to explore the process of transition is developed. Issues of ethics are touched upon, and then the chapter focuses on the operationalizing of the research. It gives a background of the organization and the two sites of practice used to conduct the empirical study and reflects on how access was negotiated by me at each site. Next, the chapter explains how the research methods were used to carry out the study and how the data were analyzed using inductive qualitative analysis. Finally, the chapter touches upon the reflections of the research process itself.

Chapters 4 and 5 present the empirical findings and analysis. Chapter 4 seeks to provide answers to the first research question by exploring the influence of movement between sites on the process of learning. It reveals the process of transition by zooming out on the two sites of practice. It explores the iterative nature of the movement from the pre-sea training at CCTC, to the sea-time training on the ship, back to the shore-based training at CCTC to develop an understanding of how newcomers navigate the process of transition through movement between sites. Chapter 5 seeks to answer the second research question of the study and reflects on the process of access negotiation in a site (on the ship) where access is not initially available. It looks at the ways of doing and saying through which newcomers negotiate access to participation on board the ship. In so doing, it develops the concept of proactivity from a practice perspective and how

newcomers enact different forms of proactivity to negotiate access to participation.

Chapter 6 - the discussion chapter - theorizes the concepts developed in the two findings chapters and builds the theoretical contributions of the study. First, it theorizes movement between sites of practice and its influence on them to develop the concept of transition as an episodic process. Second, it theorizes the process of access negotiation and develops the concept of proactivity from a practice perspective and how this concept of proactivity is useful to develop a more nuanced understanding of LPP.

Finally, Chapter 7 concludes the thesis with a summary of the key findings and contributions and the practical implications of the study, before touching on the scope of the research, as well as avenues for future research.

2 Literature Review

This chapter aims to provide a review of the literature on situated learning and, in doing, so it highlights the theoretical point of departure for the empirical study that follows subsequently. There are two main literature streams that form the theoretical base for the study. The first, is literature on situated learning that theorizes LPP in a COP which underpins the process of transition (section 2.1 & 2.2). The second is the related practice theory which helps understand where the process of transition takes place that is within and through practice (section 2.3). Within these theoretical frames, aspects of situated learning and practice such as sites of practice (section 2.4), learning in practice (section 2.5) and participation in practice (section 2.6) help focus on the where, what, and how that are used to explore the process of transition. The concept of participation is crucial to the practical accomplishment of LPP through the process of transition, and there are two aspects of participation that require further investigation. These are, learning through movement between sites of practice (section 2.7) and negotiating access to participation in practice (section 2.8). Hence, the review focuses on these aspects to highlight the usefulness of further exploration on these fronts in order to understand the practical accomplishment of LPP through the process of transition. Revealing these areas for further exploration leads to the formulation of two research questions that underpin my study (section 2.9).

2.1 Legitimate Peripheral Participation

Situated learning theories mark the move in organizational studies away from learning as a purely cognitive activity. Instead, they propose that learning is a type of social practice (Lave & Wenger, 1991; Cook &

Yanow, 1993; Gherardi et al., 1998; Wenger, 1998). They state that knowing and learning is context-dependent, they are situated and, indeed, one cannot treat context as separate from the learning. Theories of situated learning, then, move away from the notion of knowledge as possession, toward a view of knowing and learning 'as engagement in changing processes of human activity' (Lave, 1993/2010: 12). Theories of situated learning came to the fore in organizational studies mainly through the work of Lave and Wenger (1991) when they theorized the concept of LPP; they (1991: 29) describe LPP as the following:

> 'By this we mean to draw attention to the point that learners
> inevitably participate in communities of practitioners and that
> the mastery of knowledge and skill requires newcomers to move
> toward full participation in the sociocultural practices of a
> community.'

Learning, then, is a way of being in the world rather than knowing about it (Lave & Wenger, 1991: 24). LPP is seen as a type of social practice, which involves three key features; the first is legitimacy, that is, a way of belonging to the community. Lave and Wenger state, that when individuals learn an occupation, 'sponsorship into a community' becomes an issue (Lave & Wenger, 1991: 92). This sponsorship seems to signify the shift from non-member to newcomer. Learning does not take place in isolation. Instead, members of the community constantly negotiate their relations to be considered legitimate members. Hence, once newcomers gain primary sponsorship into the community, they need to engage in practices in a way that maintains legitimacy (Lave & Wenger, 1991:50).

The second aspect of LPP is peripherality, which refers to the various levels of engagement that are present in a COP; while there is no start or end to a COP, there is a periphery and core. When newcomers join the COP, they are at a relative periphery to the core members and, through increasing participation, newcomers start to move from the relative

periphery to the relative core. Hence, the periphery could be seen as a route that could potentially be taken by newcomers as they engage in the practices of the community and gain legitimacy with the members of the community (Gherardi & Nicolini, 2002: 197). Here, the notions of periphery and core have to remain relative because, according to Lave and Wenger, there is no designated periphery and no single core (Lave & Wenger, 1991: 36).

The third aspect is participation, that is, engagement in the socio-cultural practices of the COP (Lave & Wenger, 1991: 36). Lave and Wenger (1991: 36) state:

> 'Newcomers' legitimate peripherality provides them with more
> than an "observational" lookout post: It crucially involves
> participation as a way of learning – of both absorbing and being
> absorbed in – the "culture of practice."'

In other words, it is not possible to engage in or progress through a COP without participating in the practices. As newcomers transition from the periphery to the core their participation in the COP increases. LPP, then, 'refers to the progressive involvement of new arrivals in the community as they acquire growing competence in its practices' (Gherardi & Nicolini, 2002: 197). In the LPP theory, while we can divide the three aspects of it for further clarification, we cannot separate the three as they are intrinsically linked; one cannot participate without legitimate peripherality, one cannot be legitimate without the peripheral participation, and one also cannot be peripheral without legitimate participation.

Lave and Wenger (1991) used the practices of seafaring in order to comment on the LPP process in their example of quartermasters, which drew on Hutchins' (1993/ 2010) study. While Hutchins' focus was on understanding the concept of distributed cognition, the aim of the present study is to focus on how newcomers within a COP (of seafaring) transition

to becoming competent practitioners. Hence, we can draw some initial insights into how seafarers learn their practice from Hutchins' (1993/2010, 1995) ethnography of navigational practices at sea. In this, Hutchins moves away from a purely individualistic notion of cognition and learning. Instead, he argues for the cultural nature of cognition to be better understood and reflects on the cognitive aspects embodied by the system, that is, the navigation team. He focuses his analysis on the learning and change that occurs in these cognitive systems Hutchins (1995). Here, he highlights the interactional process by which new members of the quartermaster corps move towards full membership through increasing levels of participation.

My study also seeks to explore the practices of seafaring by focusing on the process of the transition of merchant seafarers as they move from being cadets towards becoming officers. In doing so, it focuses on two aspects not explored in Hutchins' (1993/2010, 1995) work: first, the movement between the pre-sea training and the ship and how it influences the process of transition, which is possible through focusing on new entrants to the COP. Second, while Hutchins' concentrates on the role of interactions in the learning of novice quartermasters he does not explore how the novices gain access to this learning. Both these points need to be explored to build further understanding of the process of transition. Having briefly explained the phenomenon under investigation, that is LPP, it is important to focus on the boundaries within which LPP takes place. Hence, we turn our attention to the concept of a COP.

2.2 Communities of Practice

A COP includes two main components. The first is the community, that is, 'social configurations in which our enterprises are defined as worth pursuing and our participation is recognizable as competence' (Wenger,

1998: 5). The second is practice, that is, 'shared historical and social resources, frameworks, and perspectives that can sustain mutual engagement in action' (Wenger, 1998: 5). As Lave and Wenger (1991: 98) maintain, 'A COP is an intrinsic condition for the existence of knowledge.' They further state that although there is centripetal movement in COPs, given their complexity there is no 'uniform or univocal "center"' and no 'designated periphery' (Lave & Wenger, 1991: 36). The aim of going through the process of LPP is to go through an identity change – from a novice of practice to its master (Lave & Wenger, 1991: 53).

Learning as LPP is a way of learning the practices of a COP and becoming a member of the COP (Wenger, 2009). Nicolini (2013: 5) maintains that 'from a practice perspective, knowledge is conceived largely as a form of mastery that is expressed in the capacity to carry out a social and material activity.' From this point of view knowledge, or rather knowing, takes place through participation in day-to-day work and activities. As Gherardi (2016: 521) notes, 'People engaged in a working practice acknowledge a set of social positions which are interrelated, which make sense, and which are enacted. Practices impart identities and selves that are displayed on appropriate occasions.' Hence, practice and identity are interlinked; the identity of practitioners is formed through and displayed within practices. This means that for newcomers to develop their identity as master practitioners gaining participation to practices that allow for this progression is fundamental to LPP; however, how newcomers gain access to participation is less clearly understood.

With regard to the LPP process, participating as practitioners takes place within the socio-cultural boundaries of a COP. As Lave and Wenger (1991: 98) maintain, the COP is important for LPP 'not least because it provides the interpretive support necessary for making sense of its heritage.' Due to the emphasis placed on the social by the LPP theory, the individual and the community cannot be looked at as disconnected entities – an individual is

always considered as a 'person-in-the-world' (Lave & Wenger, 1991: 52). Therefore, LPP theory takes into account the relationships between the individuals and the community, moving away from other theories of apprenticeships that advocate a dyadic master–apprentice relationship. Furthermore, the learning from this perspective is not simply learning the practices of a community, but also learning to be a certain kind of person – a master of the practice. As Lave and Wenger (1991) have shown, there is a very close link between learning, practice, and identity. They state,

> 'learning thus implies becoming a different person with respect to the possibilities enabled by these systems of relations. To ignore this aspect of learning is to overlook the fact that learning involves the construction of identities' (Lave & Wenger, 1991: 53).

For them, LPP is a process of identity transformation from a non-participant to a newcomer and then to a full participant – a practitioner. While LPP shows the process of identity transition, it does not highlight the contestations, differences, and power dynamics that need to be traversed for newcomers to become full participants (Contu & Wilmott, 2003). In looking at the movement between sites of practice and access negotiation, my study highlights these aspects of the process of transition. As this research is interested in the process of transition that newcomers undergo to become full participants, it is also important to understand what is meant by newcomers and old-timers. Lave and Wenger (1991: 56) reflect,

> 'Thus, we have begun to analyze the changing forms of participation and identity of persons who engage in sustained participation in a COP: from the entrance as a newcomer, through becoming an old-timer with respect to new newcomers, to a point when those newcomers themselves become old-timers.'

Newcomers and old-timers are relative positions within a COP. Newcomers can be new participants within a practice relative to participants who have

been engaged in the practice for a while. On the other hand, as newcomers engage in practices they become relative old-timers, who can be perceived as relative newcomers by old-timers who are fuller participants (Lave & Wenger, 1991: 93). Furthermore, practices themselves can change, hence old-timers can be perceived as relative newcomers within changing practices. Take, for example, the changes in practice with relation to technology. New entrants to a practice who are familiar with a piece of technology can be more skillful at using the technology than practitioners who have engaged with older modes of practice. Another example is when relative newcomers or old-timers (the journeymen in apprenticeship terms) gain access to new levels of responsibility. In this case, while they might be old-timers in certain aspects of the practice, they might be newcomers in others (Lave & Wenger, 1991; Gherardi et al, 1998). Furthermore, there could be a situation where the (relative) old-timer is a newcomer to a different site of practice while being an old-timer within a community. Hence, the terms newcomers and old-timers can be seen as fluid concepts within a COP.

For the purpose of this research, identity as a concept is implied within the terms of newcomers and old-timers. Newcomers are peripheral participants in a community of practice. The term newcomer, then, suggests this peripheral position. Old-timers refer to the relative old-timers within the community; this includes both journeymen and masters of the practice. They are participants who have transitioned to fuller participation in the COP. In undergoing the process of transition, this position of fuller participation is where the newcomers are headed; going through the process of transition means a change in identity from newcomer to old-timer. Hence, the terms newcomer and old-timer imply both the change in participation and, therefore, the change in identity.

Moving from peripheral to full participation requires the construction of identities as practitioners. Similar to Ibarra's (1999) work on provisional

selves, or Ronfeldt and Grossman's (2008) work on possible selves, Wenger (1998) describes the different ways in which newcomers engage in a COP as trajectories, that is, ways of thinking about what newcomers can potentially become in the future. He states that trajectories are not set paths; rather, they are ways of 'sorting out what matters and what does not, what contributes to our identity and what remains marginal' (Wenger, 1998: 155). Furthermore, he describes five types of trajectories: peripheral trajectories, that is, those trajectories that do not lead to full participation, where the newcomers stay on the periphery. Insider trajectories, that is, the changes in identities once someone has reached full participation, which are caused due to the evolution of the practice itself; boundary trajectories, that is, the trajectories of those who span the boundaries of different communities of practice; and outbound trajectories, those that lead out of a COP (Wenger, 1998). For my research, the most significant trajectory is the inbound trajectory; that is, when newcomers join a COP with the intention of becoming full participants. The inbound trajectory is significant because my research is interested in the process of transitions of newcomers toward fuller participation; hence, focusing on the trajectory that leads towards fuller participation becomes necessary. It also becomes a way of understanding what kind of practices the newcomers need to participate in, such that the participation puts them on an inbound trajectory.

Within organizational studies literature, COP theories have created a niche for themselves. For example, Brown and Duguid (1991) focus on the difference between abstract practices set out in organizational manuals and the everyday practices in the workplace. They treat COPs as homogenous, egalitarian entities, shifting the focus from the differing levels of participation that Lave and Wenger (1991) described. They state that non-canonical COPs in the workplace create significant learning (Brown & Duguid, 1991). Using Orr's (1996) ethnographic study of Xerox as an example, they state that organizations need to provide support for these COPs to thrive. Wenger and Snyder (2000) provide a more normative

account of COPs maintaining that COPs help add value to the organization. They then set out guidelines for organizations to foster and sustain COPs. Others have critiqued these more normative accounts of COPs within the field, arguing that focusing on the normative accounts of COPs leads to a romanticizing of COPs which glosses over the contestations, conflicts, and tensions that arise within a community of practice (see Contu & Wilmott, 2003; Cox 2005).

In sum, the definition of COPs has changed from the time when Lave and Wenger (1991) first noted the term. For the purpose of my research, COP will be used from Gherardi et al's (1998) understanding as a form of organizing. It places emphasis on practices rather than as an informal community (Brown & Duguid, 1991); it is through engaging in shared practices that practitioners gain a sense of community with the conflicts and power dynamics that are entailed in it. Here, the COP is taken as the COP of operational deck officers. Hence, the newcomers are taken as the new entrants to the COP – cadets; the relative old-timers are taken as deck officers; and the masters of the practice are taken as master mariners, hereafter referred to as captains to avoid confusion with masters in the LPP theoretical sense of the term. My research is interested in understanding the practical accomplishment of LPP. Hence, the focus is on the ways in which newcomers (cadets) in a community of practice undergo the process of transition towards fuller participation (deck officers) through movement between sites of practice and how they negotiate access to the participation required to put them on the inbound trajectory towards becoming (relative) old-timers.

Recent literature on situated learning has identified deficiencies within the existing literature when it comes to explaining how situated learning works in non-apprenticeship organizations, which are important to note. Somer and Njä (2011: 438) cite Taber et al (2008: 273), for example and state, 'the notion of situated learning [...] offers little to help explain the dramatic

performance of emergent, creative and autonomous actions often required of individual emergency personnel in crisis situations.' Their study of Norwegian firefighters expands the theory of situated learning to include individual cognitive aspects of learning alongside the process of LPP. Zukas and Kilminter (2014), in their study of doctors' transitions, also state that LPP creates problems when used to explain doctors' learnings. The transitions that doctors face during their work are not the same as an apprenticeship. There are discontinuities among levels of responsibility according to time, spatial setting and specialties (Zukas & Kilminser, 2014: 208). In this case, Zukas and Kilminster (2014: 211) conceptualize transitions as 'critically intensive learning periods' which lead to transformations. Johnston (2015) analyses the learning of student teachers during placements and states that Lave and Wenger's (1991) notion of situated learning is inadequate to analyze student teachers' difficulties in participating in school communities. Through his analysis, Johnston (2015) warns against the romanticizing of COPs.

The studies reviewed above demonstrate that, while LPP is useful conceptual tool with which to understand learning in practices, there are aspects relating the use of the theory of LPP in non-apprenticeship settings that require further understanding, not provided by the current theory of LPP. These include problems of participation (Johnston, 2015), issues of continuity between sites of practice (Zukas & Kilminster, 2014) and the explanation for autonomous performance (Somer & Nja, 2011). In seeking to understand the practical accomplishment of LPP through the process of transition, my study focuses on aspects of LPP such as the movement between sites of practice, which reveal how newcomers navigate the discontinuities between sites and the negotiation of access, which highlights the problem of participation as well as performance. However, before that, it is important to turn our focus to a related aspect of LPP, which answers the question - LPP in what? Hence, the next section reflects

on the concept practice and its subcomponents, performances, and actions, to answer the question.

2.3 Actions, Performances, and Practices

Lave and Wenger's theory of LPP along with other seminal works such as Brown and Duguid (1991) has been noted to shift the focus in organizational studies towards practices (Corradi, Gherardi & Verzelloni, 2010). These theories, coupled with the interest in a knowledge society, and knowledge economy have led to a 'renewed interest in practical knowledge' (Corradi et al. 2010:267). This viewpoint perceives practices as a focus to study the activities of practitioners (Corradi et al. 2010, 268). From this perspective, practice is the place of learning and knowledge leading to social learning theories (Elkjaer, 2003), work-based learning theories (Raelin, 1997) and fields such as strategy as practice (Jarzabkowski, 2003). These perspectives, while differing in focus, all take practice as an essential element and share the notion that practice can be the empirical object used to study the social phenomenon. According to Gherardi (2001), situated practices produce knowledge. Hence, knowledge is 'enacted – every day and over time in people's practices.' (Orlikowski, 2002: 250). Another way of understanding this is through Schatzki's (2012: 14) statement,

> 'If what a person does, thinks, believes, desires, etc., presupposes the practices that s/he carries on, social phenomena cannot consist simply of people's actions but must consist of these actions together with, or in the context of, these practices.'

We cannot talk of practice without speaking of knowledge and vice versa. Essentially, the knowledge as practice perspective is a way of understanding the world through practices.

Watson (2017) delineates practices, performances, and actions as the following, 'practice is an entity with continuity across the instances of its performance,' 'performance is an enactment of practice,' 'actions are the doings (of skilled, reflective practitioners) that comprise performances.' The relationships between practices and their components are ways of answering the question, what are practices? It must be stated, beforehand, that there is no single definition of practice, just as there is no single practice theory (Schatzki, 2001). The understandings of practice detailed, subsequently, are the ones I used to build my understanding of practices. The understanding of practice is necessary to explore the process of transition because it is practices that form the basis for situated learning. As newcomers go through the process of LPP, they are involved in the practices of a community and, in order to move towards fuller participation, they need to go through the process of becoming competent practitioners.

Schatzki (2001: 11) states that most practice theorists conceive of practices as 'arrays of human activities.' Rouse (2006: 505) notes, 'at one level practices are composed of human performances. These performances nevertheless take place, and are only intelligible, against the more or less stable background of other performances.' Furthermore, taking a normative account of practices, he states that practices are not just the regularity of performances but, rather, the 'interaction among them that expresses their mutual normative accountability.' Hence, practice as 'patterns of socially sustained action,' is an analytical concept that enables the 'the interpretation of how people achieve active being- in- the world' (Gherardi, 2009b:356-7). Furthermore, from this perspective, practice is used as a way of understanding and describing the world as 'something that is routinely made-and re-made in practice using tools, discourse and our bodies' (Nicolini, 2013: 2). In seeing practices as composed of actions or performances, practice theorists look at the bodily doings and the linguistic sayings. Nicolini and Monteiro (2017), go on to define practices as,

'Practices are meaning-making, order-producing and reality-shaping activities. That is orderly sets of materially mediated doings and sayings aimed at identifiable ends. We call such regimes of activity practices when they have a history, a constituency, and normative dimension. With a 'real' purchase in the regulated manufacturing of reality, practices contrast with hidden forces other social theories talk about.'

Practices are made up of performances that make sense in relation to other performances, which are done for a reason. They have been performed in a historically recognizable way by a group of practitioners who have a shared sense of the correct and incorrect ways of performing in practice. It is this understanding of practices that underpin the practices of seafaring that are being investigated in my study. This understanding of practice forms the basis of the study because to understand the process of transition there is a need to focus on what the newcomers are learning to do. Learning makes sense only in light of the practices of the community in which the newcomers are transitioning. That is, the newcomers learn doings and sayings which makes sense because members of the practice have negotiated these doings and sayings as the correct ways to perform within a practice. These meanings are historically negotiated. For example, the performances that make up the practices of seafaring make sense within those practices. If someone says, "raise the anchor" on land, it does not make sense, however on board a ship, within the context of the practice, this saying and related doings have a purpose. This purpose is an identifiable end for the community because raising the anchor might mean the ship is ready for her voyage or she is ready for berthing at the port. The process of transition involves learning these doings and sayings in the context of a practice so that newcomers learn how to perform as competent practitioners.

Nicolini and Monteiro (2017:110) note that 'practice approaches are a primary way of studying organizations processually.' This is because, they

share with process studies the notion that 'social and organizational life stem from and transpire through real-time accomplishments of ordinary activities' (Nicolini & Monteiro, 2017: 110) While practices are sustained, they are not static; they are constantly performed and re-performed every time anew. This repeated performance takes place not only between individuals but also between individuals and material objects. Depending on the practices and other influences, individuals may 'adapt, transform or even reject practices' (Handley et al. 2007). Hence, from a practice perspective, things are always in a state of becoming.

Taking a processual approach involves focusing on the suffix "-ing'' that is, focusing on the emergent, fluid, temporal and spatial aspects of the organizational phenomenon (Langley & Tsoukas, 2017). Thus, we move from the notion of knowledge to knowing, from being to becoming and from organizations to organizing (Orlikowski, 2002). This fluidity is important to keep in mind because process theories focus on questions of "how", that is, the processes through which something happens. In my study, while I adopt a practice lens, there is a process element involved, because the study focuses on the process of transition in the practices of seafaring. Here, processes are understood as the ways of doing things embedded in practice. Furthermore, the transition is understood as the progressive change or becoming that newcomers go through as they move towards fuller participation. Hence, understanding the practical accomplishment of LPP involves focusing on the ways of doing things, that is, the process of transition embedded in practice.

2.4 Sites of Practice

It is important to realize where the transition takes place to understand the process of transition from newcomer to full participant. Drawing on site ontology Nicolini (2011: 605) states, 'all human phenomena are situated

and have a specific "location."' For Nicolini (2011: 605), a site ontology implies that 'phenomenon at hand and its conditions are strictly related and mutually implicated.' In other words, sites indicate the situated nature of the social phenomenon. Here, location is not the spatial location of the social phenomena but, rather, the context within which the phenomena transpire (Schatzki, 2005). This context is not an empty box, "out there," within which practices occur, rather it is used as convenient shorthand to describe the sociocultural, historical and material arrangements that enable or constrain practices and are expressed through practices (Kemmis, Wilkinson, Edwards-Groves & Hardy, Grootenboer & Bristol; 2014).

Schatzki (2002) states that the site of the social is made up of bundles of practice. A site, as denoted by Schatzki (2005: 468) is a 'type of context,' which is not necessarily spatial but which governs and is governed by the activities within it. For example, practices, from site ontology, can be seen as sites, as regimes of actions that determine and are in turn defined by the actions of the socio-material doings and sayings that take place within them. For Schatzki (2005; 471), 'the site of the social is composed of nexuses of practices and material arrangements.' According to Schatzki, social orders are related to practices because they are established in practices. The way in which things are arranged is done through organized regimes of doings and sayings (Schatzki, 2002; Nicolini & Monteiro, 2017). These practice-order meshes are entwined with each other in 'tight or loose multi-layered webs' (Schatzki, 2002: 155). This is an important aspect to keep in mind when looking at the movement between sites of practice. In looking at the influence of the movement of the process of transition, we need to be aware of the connections and alignments between the sites to understand how the sites relate to each other and the influence of this relation on the learning of the newcomers.

According to Kemmis et al. (2014: 33), for Schatzki, practices are 'always located in particular sites at particular times.' These sites, have particular

'cultural-discursive resources, material-economic resources and social-political resources' (Kemmis et al., 2014: 33) that enable the unfolding of practices. For Nicolini (2011), practices are sites of knowing, because what counts as knowledge is closely linked to sites of practice. Furthermore, Schatzki (2005: 471) relates this notion of knowledgeability, or 'pursuing certain stakes' to Bourdieu's (1990) concept of habitus and field; stating that once acquired, habitus ('batteries of dispositions') perpetuates the field's practices and conditions. From this, Schatzki (2005: 471) states that 'the site of the social is these possibility space-carrying fields.' Sapir, Drori, and Ellis (2016: 20) state, 'most of what people do is part of some practice or another, and such social phenomena as institutions and power can be understood via the structures of relations among practices.' Furthermore, Grootenboer, Edwards-Groves & Choy (2017: 10) state that practices in certain sites emerge because they are enabled, constrained and shaped 'by conditions that exist in particular sites at that time.'

To understand how newcomers transition towards fuller participation, it is important to realize aspects of the arrangement of practices and the practices of the particular sites in which newcomers seek to participate. This is because learning in practice is situated within the contextually bounded arrangements that make up the site of practice. To transition towards fuller participation newcomers need to do so in ways that are in line with the situated practices of a particular site. Having looked at the concept of sites of practice, the attention turns, now, to what learning in practice means.

2.5 Learning in Practice

Lave and Wenger's theory of LPP opened an avenue for practice theorists to talk about learning in practice in a broader sense. Practice-based studies take as their essential tenet a notion of learning that is situated and involves

participation in practice (Gherardi et al., 1998; Gherardi, 2008). Gherardi et al. (1998) further an argument in their paper on learning in the workplace as both a cognitive and social activity. They state 'to know is to be capable of participating in with the requisite competence in the complex web of relationships among people and activities' (Gherardi et al., 1998: 274). Gherardi (2001: 133) states that 'in practice, knowledge is mediated by social relations and knowing is part of a surrendering to a social habit'. Learning from a practice perspective is a form of situated practice, and practice is always social (Wenger, 1998; Handley, Fincham & Clarke, 2007). From the practice perspective 'knowledge resides in social relations, and knowing is part of becoming an insider in a COP' (Gherardi, 2001: 133).

The acquisition of performative skills has received recent attention by Schatzki (2017) who states that theories of LPP do not promote a new concept of learning; they still hold the learning as acquisition of knowledge. From his understanding of practice, learning in practice 'involves both the acquisition and subsequent development of a regime of competence' (Schatzki, 2017: 27). This acquisitive learning, that is, knowing how to go on in practice is what Gherardi, Wenger, and Kemmis et al. mean by participation in practice (Schatzki, 2017: 28). However, he states, the key difference between situated and traditional forms of learning is practices. From a practice perspective knowing and learning always occur in practices. For example, Tsoukas & Vladimirou (2001) state that knowledge is the individual ability to draw distinctions. Furthermore, drawing distinctions is the ability to split the world into this and that. When looking at organizational knowing Tsoukas and Vladimirou (2001: 979, emphasis in original) state,

> 'In a strong sense, however, knowledge becomes organizational
> when, as well as drawing distinctions in the course of their work
> by taking into account the contextuality of their actions,

individuals draw and act upon a corpus of generalizations in the
form of generic rules produced by the organization.'

In the above quote, we see the importance of contextuality of actions. That is, the understanding that the social world is composed of practices and learning occurs within these social practices (Schatzki, 2017). Explaining the notion of learning, Schatzki (2017: 44) maintains, learning occurs,

> 'When a person is capable of flexibly coping with rules—
> obeying them, interpreting them, ignoring them, and taking
> them into account. And yet another form of learning is a person
> becoming better able to articulate general understandings that
> imbue practices she carries on, thereby enabling these practices
> to proceed more clairvoyantly, focusedly, and confidently (cf.
> Taylor 1985).'

Specifically, learning occurs through knowing how to go on within practices. Through participating in practices, practitioners learn the rules of the practices, and through further participation, they master the flexibility of the rules. Moreover, learning in practice focuses on how practitioners proceed in practices and how this proceeding changes over time. It is important, then, to understand how learners learn to proceed in practices (Nicolini & Monteiro, 2017).

Knowing in practice, and therefore learning in practice, is also seen as an embodied activity. As Gherardi (2009b: 355) states, 'knowledge is not an object captured by means of mental schemes; rather, it is a practical and collective activity, and it is acquired not only through thought but also through the body and sensory and aesthetic knowledge (Strati, 2007).' As learning takes place through participation and knowing is perceived as action, the body plays an important role within practice-based theories of learning (Schatzki, 1996; Gherardi, 2006; Hopwood, 2016). Yakhlef (2010: 411) furthers this notion, stating that, 'competence is located in the body in the form of bodily skills.' The emphasis on embodied learning stems from

a rejection of the Cartesian mind-body dualism. Instead, situated learning theories see the mind as part of the body (Lave & Wenger, 1991; Lindkvist, 2005; Hislop, 2008).

There has not been much emphasis on the maritime industry in mainstream organizational studies, however, there are elements noted from other works on seafaring that can augment the situated literature in organizational studies. For example, Mack (2007) focuses on the aesthetics of seascapes to explore the relationship between passion and knowledge through the place of the sea. 'Aesthetic knowledge is always involved whenever flesh-and-blood human beings act' (Gherardi, 2011: 54). With her work on the aesthetics of seascapes, Mack calls for an increased awareness of organizational studies on the maritime industry. Understanding learning as an embodied activity is important in the understanding of the process of transition because it helps focus on the way in which the body enables and constrains participation and how, in going through the process of transition, newcomers learn through their bodies to become competent practitioners. While previous literature has focused on embodied learning, it has not explored in depth, the role of the body in enabling and constraining participation.

Furthermore, learning in practice is also spatiotemporally situated. Hence, space and time both play a role in enabling and constraining what is possible in practice. While there is a general understanding that when speaking of the situated nature of learning in practice, theorists are not focusing on the physical situatedness (Schatzki, 2005), that is, practices are not situated *because* of their location in certain spaces. Others have directed attention to the importance of space when considering practices. For example, Yanow (2006: 1752) notes,

> 'The return to grounded, practice-based studies appears to be
> bringing with it a re-centering of attention to spatial dimensions
> of work practices, focusing on the relationship between

organizational spaces and human action, the ways in which
spatial elements communicate organizational meanings.'

The attention to the spatial dimension of work practices means that there is a focus on the influence of space on actions, and how spaces act as communications tools. Take, for example, a lecture theatre with a podium for the speaker and rows of seats and tables for the students. Looking at the spatial design one can note the possibilities for action – the lecturer due to her position at the front of the room on the podium, acts accordingly, she stands, she talks, and the focus of the room, per the spatial design, is on her. The students, on the other hand, sit, their role is more passive in the spatial design. Additionally, looking at the space communicates the intent of the practices that take place in the room; it is a room for lecturing. The notion of space guiding actions is also furthered by Gherardi (2006: 132) who maintains:

'An organized space – a workplace – is a 'situational territory' (Goffman, 1971; Suchman, 1996) in which objects remind subjects of what they must do, prevent humans from doing things that may harm them, guide action according to intentions inscribed in their design, and make work and life comfortable, both materially and socially.'

In Gherardi's (2006) work, we can note again that spaces both enable and constrain the actions of the agents who perform in those spaces. Hence, spaces guide actions by reminding those who perform in those spaces, what courses of actions are available to them. The notion that spaces enable and constrain actions is important for my study because, newcomers need to develop a sense of what is or is not possible to do which is, as Gherardi notes, guided by spaces and the objects within them. Therefore, situated territories become relevant because, like the body, they enable and constrain certain courses of actions that the newcomers can take; and to look at the practical accomplishment of LPP we need to look at the ways in which newcomers learn to participate in these spatial territories.

Practices are also spatiotemporally situated, which means that 'practices always occur in physical space-time. Practices, therefore are temporally situated, locally influenced, locally produced, locally enacted, locally accomplished and locally comprehended' (Grootenboer, et al, 2017: 9). Practices, then, are situated; hence, learning in practice is a situated activity bounded by space and time. It is within these spatiotemporally bounded practices that newcomers transition; they need to learn how to go on in these situated practices. Hence, to understand the practical accomplishment of LPP through the process of transition it is important to focus on the spatiotemporal dynamics. Although the above-mentioned studies have explored the role of space in learning, there is still room for expansion on how newcomers negotiate participation in spatial territories. This is important to understand in the process of transition because practices are spatially situated and consequently access to these spaces is required for the accomplishment of LPP.

Practice theories are sensitive to materiality (Orlikowski & Scott, 2008; Orlikowski, 2009). This is because practices themselves are socio-material and this socio-materiality accounts for the situated nature of practice, or the 'situational territories' described above by Gherardi (2016). To be skillful, then, individuals need to mediate not only with the COP but also with the material artefacts of the practice. Hence, LPP and practice theory are intrinsically intertwined. From the LPP perspective, individuals participate in the practices of the community to become full participants. As this research is interested in the transition of newcomers in the LPP process, the practice-perspective provides a suitable analytical lens to focus on the practices of seafaring.

The focus on embodied, material and spatiotemporal aspects of learning forms the basis of the focus on the performative aspects of learning. As Gherardi (2012: 47) states 'the competence of the individual in knowing

how to get things done is both collective and distributed, grounded in the everyday practices of organizational members.' Here Gherardi (2012 follows other practice theorists, such as Orlikowski (2002) in emphasizing that from a practice perspective, competence is demonstrated through performance and human actions; that is, knowing how. Orlikowski (2002: 250) notes that knowledge is 'enacted –every day and over time—in people's practices.' Furthermore, Orlikowski (2002: 253) draws on Lave (1988) and states that knowing how emerges from 'the situated and ongoing interrelationships of context (time and place), activity stream, agency (intentions, actions), and structure (normative, authoritative, and interpretive).' From this perspective, knowing and skillfulness are not stable properties; rather, they are seen as emerging, enacted and embedded in situational practices. The concepts of knowing and skillfulness in practices are learned by newcomers through participating in practice. Learning in practice requires participation, this means that to study the ways in which LPP is accomplished in practice, we have to focus on participation and, how participation is accomplished in practice is less understood. Therefore, the next section focuses on participating in practices and what it means.

2.6 Participating in Practice

The newcomers must be able to participate in the activities of the COP to become members of the COP. For Lave and Wenger (1991: 100) 'learning occurs through centripetal participation in the learning curriculum of the ambient community.' Centripetal participation means that there is a route or a path (trajectory) that the newcomers take to move towards fuller participation (Gherardi et al., 1998). It is through opportunities to participate that individuals can develop their identities and practices within the context of the COP (Handley et al., 2007: 177). It is through participation that newcomers can engage in and with the culture of the

community. Here, participation involves 'taking part in a professional language game, mastering the rules and being able to use them' (Gherardi & Nicolini, 2002: 196). As newcomers seek to participate in the practices of the community, they engage in the process of LPP (Corradi et al., 2010: 268-269). Learning then becomes a way to participate in ongoing practices, to negotiate relations with members of the community and with materials while engaging with and contributing to the shared activities (Gherardi & Nicolini, 2002). Furthermore, Gherardi and Nicolini (2002: 197) state that because knowledge is distributed in 'the life of the community, and because learning is an act of belonging, learning necessarily requires involvement in and contribution to the community's activity and development.'

Gherardi et al. (1998: 274) state that 'to know is to be capable of participating in with the requisite competence in the complex web of relationships among people and activities.' Members of the COP are able to legitimize themselves as practitioners through participation in the practices of the community. Regarding developing mastery, participation is also the way in which individuals are able to gain and demonstrate competence in the practices of the COP (Gherardi & Nicolini, 2002). If knowing is 'enacted over time' and in the everyday activities of community members, then it is through participation that they are able to engage in these activities. Therefore, participation is 'how they reconstitute knowledgeability over time and across contexts' (Orlikowski, 2002: 253). In their work on safety culture, Gherardi and Nicolini (2002: 206) state, 'Inasmuch as safety is a social competence – something that cannot be learned, but only practiced—it is one of the elements that a novice must learn as a part of 'being at work.' It is through participation in the practices of the COP that novices are able to learn what to do and what not to do. Therefore, it is through participation that newcomers are able to learn the boundaries of the practices and how to competently participate in the practices. As Hutchins (1995; 46) states, 'the task for the novice is to learn to organize his own behavior such that it produces a competent

performance.' While the importance of participation for learning has been noted in previous studies, how participation is accomplished is less well understood.

Konopaski, Jack & Hamilton (2015) look at LPP in the setting of the family firm and highlight the link between legitimacy and participation. They state that as participation in practices increases so does legitimacy to a point where the participation of the members becomes essential for the COP. Through participation, members of the COP go through an identity change as they seek to master the practices of the COP (Handley, Sturdy, Fincham & Clark, 2006). Here the 'mastery resides not in the master but in the organization of the COP' (Lave & Wenger, 1991: 94). Hence, it is through involvement or engagement with practices that newcomers are able to transition into masters of the practice. According to Handley et al. (2007: 175) 'Participation enables or constrains opportunities to develop identities and practice.' Furthermore, it is through participation at different levels 'core', 'peripheral' 'marginal' that one is also able to understand where within the COP the individual is located (Wenger, 1998). In order to study the transition of newcomers to masters of the practice, participation becomes key.

Since, Lave and Wenger's (1991) work, others have discussed the importance of participation for learning in a COP (see: Lave, 1991; Gherardi et al., 1998; Billet, 2004; Tanggaard, 2007). However, while the concept of participation has been explained (Wenger, 1998), different forms of participation have not been expanded. For example, Gherardi et al. (1998) in their work on situated curriculum show the progressive participation and state that participation in the practices of the community follows a more or less ordered path for the novices. While through their empirical case they show the progression in the tasks done by the newcomers they do not show the different forms of participation that come into play as newcomers progress towards fuller participation. Taangard

(2007) looks at the move of newcomers from a vocational training center to a trade to show how, through participation, newcomers gain increasing familiarity with the practices of the trade. Again, he does not focus on the forms of participation required for gaining familiarity.

Ribeiro (2007; 2012; 2013) opens the "black box" of participation when he notes the different types of immersion one can undergo as part of a life or collectivity. These five types of immersion are ''non-immersion (e.g., machines)', 'self-study (e.g., just reading)', 'linguistic socialization [alone], Collins 2004b', 'physical contiguity' (Ribeiro, 2012) and 'physical immersion [i.e., practice] (Collin & Evans, 2007: 59)' (Ribeiro & Lima, 2016: 288). The above-mentioned types of immersion can also be looked at as 'levels' of immersion (Ribeiro, 2012: 368), which means that the higher the level of immersion, the 'more experiences it encompasses' (Ribeiro, 2012: 368).

 Ribeiro uses the case of newcomers in a Brazilian nickel plant to show how pre-operational training involved, on-the-job training, technical visits and classroom training, and how these aspects of the pre-operational training shaped the levels of immersion. The levels of immersion were described as follows, in the class room there was linguistic socialization, that is, developing domain-specific understanding through things that can be talked about. Learning of technical language can also come through self-study, the socialization allows members to make conceptual judgements. In technical visits, there was physical contiguity, whereby the newcomers could be in proximity of the actual practices of the experts, but without active participation in the practices. At the same time, physical contiguity also involves linguistic socializations because, while newcomers do not participate in the practices, they are able to talk to the experts. In the on-job-training, newcomers had physical immersion in the practices, that is, they could participate "hands on" in the practice. Physical immersion also

had physical contiguity and linguistic socialization. Therefore, Ribeiro (2012) shows different levels of participation within a practice.

There are two aspects of participation in the above-mentioned studies that require further exploration. First, in all the studies there is continuity participation. Gherardi et al. (1998), following Lave and Wenger (1991), state that learning in a situated curriculum follows progression and regression as newcomers move from one task to another; however, there is a continuity in the tasks performed by the newcomers. In Ribeiro's (2012) studies, the movement from linguistic socialization to physical immersion shows that each form of participation builds on the previous forms of participation. This works when the focus is on a single site of practice. However, it is useful to explore how participation is influenced by movement between sites of practice. If sites contextually bind practices (Schatzki, 2005) movement between sites helps explore how the ways in which newcomers navigate different contextually bound practices at different sites, and how this movement influences their transition.

Second, the studies above state that participation has to be available to newcomers to go through LPP. For example, Gherardi et al. (1998: 279) state that participation is an 'epistemological principle for learning.' Furthermore, 'learning requires access and opportunity to take part in on going practice' (Gherardi et al 1998: 279). The other studies (Handley et al 2007; Nicolini & Monteiro, 2017) also state that participation opportunities need to be available for newcomers. However, how access to participation is made available to newcomers has not been focused upon in the previous literature on LPP. Hence, the subsequent sections delve further into the situated learning and practice literature to show what has been discussed about learning at different sites and about access to explore these gaps in the understanding of the process of transition.

2.7 Learning between Sites of Practice

Studies of situated learning have focused on learning between different communities of practice (Wenger, 2000; Yanow, 2004; Oborn & Dawson, 2010) learning across different sites within the same COP has not been the focus. Furthermore, the literature on brokering and translation focuses on how members of the community translate or broker knowledge across boundaries of the community (Carlile, 2002; 2004; Nicolini, 2010b). However, it is important to consider how newcomers undergoing the transition as legitimate peripheral participants learn to navigate between different sites of practice within the same community and how this movement influences the process of transition.

Practices are situated; however, they do not exist in isolation. This has been noted by theorists who state that practices form nets, nexuses or bundles which make up the social fabric (Czarniawska, 2004; Nicolini, 2011; Hui, Schatzki & Shove, 2016). These nets, nexuses, and bundles are made up of sites of practice that share connections in terms of activities, materiality, beliefs which lead to harmonious or conflicting relationships between them and the participants who enact them (Schatzki, 2005). The notions of nets, nexuses, and bundles become relevant for my study because in looking at two different sites of practice, it allows one to trace the connections between sites. Tracing of connections becomes necessary because newcomers might have to undergo LPP through movement between sites of practice and connections help understand the influence of this movement on the participation of the newcomers. For example, what are the commonalities and differences between training institutions and the places of trade, and what influence do they have on newcomers' learning? In the case of my research, the idea is to focus on the process of transition through movement between the training center to work practices on board and vice versa. Fuller and Unwin (2003: 408) state that 'the main shortcoming in

Lave and Wenger's account of learning is that it does not include a role for formal education institutions in the newcomer's learning process.'

My research hopes to focus on the process of transition by including the formal training undergone by cadets. In doing so, it hopes to treat the training center at a different yet connected site of practice to see how the movement between sites influences the process of transition. In this case, the cadets are novices in the practices of the training center as well as novices in the practices on board. The idea, then, is to see how they engage through participation in different practices, which practices are translated, which are dropped and how they participate in this constellation of interconnected sites of practice (Gherardi & Nicolini, 2002; Mork, Aanestad, Hanseth & Grisot, 2008).

Studies of situated learning within organizational studies that focus on both traditional and modern apprenticeships focus on two types of apprenticeships. The first is the process of LPP within a single site (Gherardi & Nicolini, 2002; Marchand, 2008). For example, Gherardi and Nicolini focus on the learning safety practices at a construction site. Marchand (2008) concentrates on the embodied learning of trade in craft apprenticeships. While he looks at three sites, the minaret builders in Yemen, the mud masons in Mali, and the fine-woodwork trainees in London, each of these sites is treated as separate; he does not focus on the movement of the newcomers between these sites of practice.

Alternatively, studies focus on LPP through unidirectional movement from one site of practice to another. Handley et al. (2007) for example, focus on the situated learning of junior consultants as they engage in client consultant meetings. They state that the movement between different sites reveals that the process from partial to full participation is not smooth and they moved between multiple forms of participation, yet they do not explain how movement between the different sites of practice influences

the learning process. Additionally, Ribeiro (2012) also looks that the movement of novices between the training center and the nickel plant to demonstrate his analysis of types of participation. While he convincingly demonstrates the levels of participation – linguistic socialization, physical contiguity, and physical immersion, he does not show the tensions and conflicts that arise when newcomers move between different sites of practice and the influence of these tensions and conflicts on the newcomers' learning. Hence, there is space for further exploration of movement between sites of practice and the influence of this movement on the process of transition. By focusing on LPP at a single site of practice or through unidirectional movement, these studies do not explore how newcomers navigate the contextual differences between sites.

Studies on vocational training, except Tanggaard (2007), imply a similar unidirectional view of situated learning between sites of practice. For example, Ronfeldt and Grossman (2008) reflect on the notion of possible selves when they look at becoming teachers, clergy, and clinical psychologists. However, they concentrate the movement from being students to working in the trade. Tanggaard (2007) focuses on boundary crossing between a vocational training school and trade to focus on the concepts of strangeness and legitimacy in situated learning. His study notes that within the Danish context, trainees move back and forth between the vocational training school and the trade (Tanggaard, 2007). The difference between his study and this one is the following - First, the duration of the iterative movement is different; each training period lasts between 5-10 weeks between work, leading to a difference in findings (Tanggaard, 2007). Furthermore, the focus of the study is more on boundary crossing than on the influence of the iterative movement on the process of transition.

My study moves away from a unidirectional view of situated learning by concentrating on the newcomers' iterative movement between sites of practice. This movement between sites of practice has not received

sufficient attention in the previous literature on LPP, and there is room for exploring the influence of movement on the process of transition and through it the practical accomplishment of LPP. Exploring the iterative movement is important because concepts such as legitimacy, identity, participation and skillfulness are based, in previous literature, on LPP at a single contextually bound site. How participating in multiple contextually bound sites influences these concepts is less well understood.

2.8 Negotiating Access to Practices

As noted earlier (section 2.7), participation has been "black-boxed" in theories of situated learning. While, scholars such as Ribeiro (2007, 2012, 2013) have opened the black box to look at different ways of participating or levels of participating there remains room to explore participation in situated learning. My thesis seeks to explore another aspect of participation, that is, how is access to participation negotiated? To understand this issue of LPP, it is time to focus on the treatment of access and power in the literature.

To understand how power dynamics, enable or impede access to learning opportunities (Contu and Wilmott, 2003), it is important to understand what power is. Nicolini and Monteiro (2017: 114) make a brief mention of power when they state –

> 'Practices and their assemblages empower certain courses of action (and those positioned to take them) over others. Hence, no one can ever step aside from the circuits of power just as they cannot step out of the texture of practices – which is synonymous to social life (Schatzki, 2002).'

Therefore, power is always present within practices (Watson, 2016). They further equate agency to power and state that 'the world is highly unequal as access to such agency (which means 'power' by any other name) is unevenly distributed' (Nicolini & Monteiro, 2017: 114). Schatzki (2002: 191) states that agency is 'doings' which, in turn, makes the agency a form of action. If agency is power and action, the best place to define power stems from Foucault's (1982) work. For Foucault (1982: 789) 'power exists when it is put into action.' This notion of power fits in well from a practice perspective because, like knowledge, or learning, power is not a thing or possession, it is a process. Furthermore, Foucault (1982: 790) states,

> 'what defines a relationship of power is that it is a mode of action which does not act directly and immediately on others. Instead, it acts upon their actions: an action upon an action, on existing actions or on those which may arise in the present or the future.'

Hence power is the ability to influence the actions of others through one's direct or indirect actions (Foucault, 1982). When this notion of power is related to agency, agency becomes the actions one can take which, in turn, influence the actions of others. Furthermore, access to agency then means access to actions that influence the actions of others. Access to agency/power determines the ability to use actions to influence the actions of others. As peripheral participants newcomers have limited access to participation (Lave & Wenger, 1991), in terms of power, this is theorized as limited ability to act to influence the actions of others. This ability to act is noted by Lave and Wenger (1991: 36) when they state,

> 'As a place in which one moves toward more-intensive participation, peripherality is an empowering position. As a place in which one is kept from participating more fully – often legitimately, from a broader perspective of society at large – it is a disempowering position.'

As newcomers go through the process of LPP, their ability to influence the actions of others, that is, to exercise power has the potential to increase if their peripherality changes. In turn, actions of the other members of the community influence this process which influences the actions of the newcomers in their ability to act. To understand the process of transition, then, it is important to understand how these relationships of power influence, and are influenced by, the actions of newcomers as they transition to (relative) old-timers and vice versa.

Power as a concept becomes necessary for my research because it can be linked to access to participation. Hence, drawing on Contu and Wilmott's (2003:285) notion, learning the practice and becoming a member is significantly dependent on power dynamics that enable or impede access to learning practices. Contu & Wilmott's (2003) critique of the situated learning theories states that while Lave and Wenger (1991) mentioned the notions of power and access, they (Lave & Wenger, 1991) did not provide a sufficiently in-depth analysis of the topic. In exploring the access element in the LPP process, this research draws on the literature on power and situated learning (Levina & Orlikowski, 2009; Contu, 2014). Hence, it follows others in the move away from COPs as homogenous entities (Contu & Wilmott, 2003; Fuller, 2007; Contu, 2014). Fox (2000: 8) perceives learning as the 'process of local struggle' with the self, with others and with materials.

Hislop, Newell, Scarborough & Swan (2000: 407) looked at the political nature of innovation appropriation processes and found that the ways in which formal authority was translated into actual power depended on the 'specificities of organizational contexts'. In LPP too, the translation from formal authority to actual power depends on organizational contexts. Heizmann (2011) focuses on the issues of power struggles within knowledge sharing. Looking at organizational change Kellogg (2011) reflects on why less powerful members of organizations, even though

having access to cultural resources, do not challenge traditional practices. Her study reveals how legitimacy to participate does not guarantee that resources will be accessed or that participation will be accomplished. Kakavelakis and Edwards (2012) discuss the relationship between continuity, change and the divisions between practitioners. While there has been an increasing interest in power dynamics in the LPP process, this is most commonly articulated as the power struggles between generations of old-comers and new-timers as a means of developing new practices (Fuller, 2007).

Concerning the maritime industry, the rigidity of hierarchy within the industry also brings issues of access and power relations more to the front (Sampson, 2013). For example, Kahveci, Lane and Sampson (2001) report cases where the junior officers were unwilling to challenge the master, which led to accidents. While these studies are interested in explaining the deficiencies within the system that have resulted in a lack of a competent workforce, none have focused on how seafarers learn to become competent practitioners within the rigid hierarchical systems in which they participate.

Reflecting on the practices of access negotiation involves focusing on how access is negotiated and, more importantly, access to what. It is within participation that access becomes an important analytical theme. LPP theory states that it is through access to participation, resources, and old-timers that newcomers can potentially progress from partial to full participation (Lave & Wenger, 1991; Wenger, 1998; Gherardi & Nicolini, 2002). Referring to the importance of access to the process of LPP Lave and Wenger (1991: 100) state, 'the issue is so central to membership in communities of practice that, in a sense, all that we have said so far is about access.' While studies mention that members negotiate participation, there has not been much said about how this negotiation of participation and access to participation takes place.

As my study takes a practice-based approach, here, the focus is on access to participation in practices. This access includes access to tools, specialist equipment, spaces, people, and networks. Access to these aspects of practice becomes crucial for the process of transition from newcomer to full participant. In previous literature, there are allusions to unequal access and what this means for participation (Contu & Wilmott, 2003; Nicolini & Monteiro, 2017). Participation enables or constrains opportunities to develop identities and practice, including 'linguistic practices' (Handley et al., 2007: 175). While all studies of LPP look at participation in practice, only a few have looked at different forms of participation (Ribeiro, 2007; 2012; 2013). The present study opens the black-box of participation to look at how newcomers in a COP negotiate access to participation. In doing so, it looks at the ways in which newcomers negotiate access to further participation.

2.9 Research Questions

In sum, this chapter has provided a brief overview of the literature, first by explaining key concepts such as LPP and communities of practice. Next, explaining the practice-based lens and the process of transition through situated learning is studied. Specific aspects such as sites of practice and learning in practice are used to create a greater understanding of how current literature understands these concepts. Through these concepts, research on seafaring is weaved in to provide an understanding of how the profession has been studied in previous literature. Participation has been discussed to show why there remains a need to reflect on participation in order to understand the practical accomplishment of LPP.

From the above review, two research gaps have emerged. The first is that, studies of situated learning, have looked at unidirectional movement across sites of practice in order to understand the process of transition. My study

seeks to understand how iterative movement between sites of practice influences learning. Second, the study aims to problematize the concept of participation by understanding how newcomers negotiate access to participation in a COP. Based on the review of situated learning theory and the related practice based theory my study identifies two research issues that form the basis for the research questions that underpin my study. These are:

1. How does the movement between sites of practice influence the process of transition from newcomer to full participant?

2. How do newcomers gain access to increasing levels of participation in a COP?

The thesis seeks to further explore the situated learning by answering these research questions. Having completed a review of the literature, the next chapter will focus on the research methods that underpin my study.

3 Research Methods

The aim of this chapter is to define and explain the methodological assumptions and tools used to conduct this research. It takes a qualitative approach to data collection and was conducted as a multi-sited ethnography (Marcus, 1995) using observation and interviews as data gathering methods and the data were analyzed using grounded theory.

This chapter is structured as follows. It will first briefly explain the philosophical underpinnings of the research (3.1). Next, it will reflect on the characteristics of an ethnographic study (3.2). Then it will clarify the operationalization of the research, reflecting on the field site (3.3), the process of access negotiation (3.4), and briefly, touch on the ethical considerations (3.5). Next, it will focus on the data collection methods (3.6), reflecting on how the data gathering tools, observations, and interviews were employed. After this the research will go over the data analysis methods (3.7), defining the characteristics of inductive thematic analysis and how it was used before finally touching on the reflections of the research process (3.8) before concluding with the summary (3.9).

3.1 Philosophical Underpinnings

Berger and Luckmann (1966: 15) state, 'only a few are concerned with the theoretical interpretation of the world, but everybody lives in a world of some sort.' This view of the 'world' or the nature of reality and the nature of knowledge have consequences on the research questions and how these questions are answered (Suddaby, 2006; Bryman & Bell, 2011). Ontology, as mentioned above, is concerned with the nature of reality, with the 'very essence of the phenomena under investigation' (Burrell & Morgan, 1979:

1). The reality, in turn, refers to the 'quality appertaining to phenomena that we recognize as being independent of our own volition (we cannot 'wish them away')' (Berger & Luckmann, 1966: 13). Following the theoretical underpinnings discussed in chapter 2 and the phenomenon under investigation, LPP, the onto-epistemological logic (Sandberg & Tsoukas 2011) of my study is grounded in a Heideggerian existential ontology. From this perspective, the meaning of existence, the being, is thought of as being-in-the-world. Accordingly, there is no separate world that we become a part of, our existence is entwined intrinsically with the world, where the world is comprised of socio-material practices (Sandberg & Tsoukas, 2011); that is, the 'meaningful whole in which we live' (Sandberg & Pinnington, 2009: 1144). This human way of being, 'Da-sein' (being-there) (Heidegger, 1996: 10) is the 'activity of existing' (Dreyfus, 1991: 40). Assumptions about the nature of reality have import on the ways in which the world can be understood (Burrell & Morgan, 1979). Questions about the nature of knowledge, that is epistemology, pertain to whether knowledge is something that can be 'acquired' or whether it is something that has to be 'experienced' (Burrell & Morgan, 1979: 2). For Heidegger (1996) this notion of being-in-the-world determines the understanding of it,

> 'Rather, in accordance with the kind of being belonging to it, Da-sein tends to understand its own being in terms of that being to which it is essentially, continually, and most closely-the "world". In Da-sein itself and therewith in its own understanding of being…the way the world is understood is ontologically reflected back upon the interpretation of Da-sein' (Heidegger,1996: 14).

Consequently, the way in which we engage with the world, our entwinement with it, enables us to understand that world (Sandberg & Tsoukas, 2011).

In undergoing the process of transition, newcomers are learning-being-in-the world, in this case, in the practices of seafaring, through participation or entwinement with the world. Therefore, to understand the process of transition, the focus needs to be on the socio-material practices within which the newcomers participate. Accordingly, my study takes a practice epistemological lens grounded in Heideggerian philosophy (Schatzki, 2002; Nicolini, 2011; 2012). My research views knowledge as practice, learning as participation in a community of practice and wants to understand how practitioners transition as they move from being newcomers to old-timers. It assumes that knowledge, learning, practices, and identities are socially and materially constructed. If knowing comes from participation and cannot be free of prejudice then the researcher also cannot be an objective outsider. S/he must acknowledge that s/he brings beliefs and pre-understandings to the research that shapes the interaction with and understanding of the world (Tsoukas & Vladimirou, 2001). My research is interested in sayings and doings, not facts and will emphasize language and actions over numbers. These philosophical underpinnings influence my choice of research methods.

3.2 Research Design

Cunliffe (2011: 651) maintains,

> 'Our meta-theoretical assumptions have very practical consequences for the way we do research in terms of our topic, focus of study, what we see as ""'data",'' how we collect and analyse that data, how we theorize, and how we write up our research accounts.'

This holds true for my study and, as such, the philosophical traditions that underpin the research influenced the research design of the study.

3.2.1 Ethnography

The situated nature of learning through LPP within COPs and the practice lens mean that any exploration of this phenomenon must take place within a focused setting. As such, this research was conducted as a multi-sited ethnographic study. Ethnography is a study of the culture (Hansen, 2006: 1055) based on up-close on-the-ground observation of individuals (Lave, 2011). According to Hammersley and Atkinson (2007: 3),

> 'Ethnography usually involves the researcher participating, overtly or covertly, in people's daily lives for an extended period of time…gathering whatever data are available to throw light on the issues that are the emerging focus of inquiry.'

It asks the researcher to view the site of study in real time to understand the meanings, actions, and feelings of the individuals being studied, and also the context within which these, meanings, actions, and saying are created. This type of immersion into the field is 'by and large the definition of the trade' (Van Maanen, 2011: 219).

Due to the nature of the method, ethnography values depth over breadth. Researchers usually choose one or two sites to study and may go back to them again and again. Behind this research method, is the idea that the social world is knowable 'only in terms of the meanings people grasp, create, maintain, transmit, and alter in the process of dealing with one another' (Van Maanen & Kolb, 1983: 1). To do this, ethnography requires the researcher to understand the world as the participants at the site of research understand it as well as bring in the researcher's perspectives. This is why ethnographers usually focus on the mundane, the everyday contexts within which agents function (Hammersley & Atkinson, 2007: 3).

The complexities and subtleties of LPP in COPs require a depth of understanding that can be provided by ethnographic methods. This research

method gave me a chance to understand multiple perspectives and processes (Fine, Morril & Surianarain, 2009: 603). As stated earlier, the aim of my study is to focus on learning in organizations and, specifically, how newcomers in the practices of seafaring become legitimate peripheral participants. Hence, an ethnography, with its focus on performances (doings and sayings) as well as the mundane routine aspects of practice is well-suited to answer the research questions.

To transition from newcomers to fuller participants in the practices of seafaring, the cadets at the organization that I chose for my study had to participate at a training center ashore and on board ships. Accordingly, to fully understand their transition, I decided to conduct field work at both sites of practice. As such, my study is a multi-sited ethnography (Marcus, 1995). Hennerz (2003: 206) states that multi local projects are those which draw on a problem which is '*trans*local' (emphasis in original), that is, it is not confined to a single place. Drawing on a translocal problem means that the sites are not used purely for comparison; rather, they are connected and linked in some way. Hence 'one must establish the translocal linkages, between those and whatever local bundles of relationships which are also part of the study' (Hennerz, 2003: 206). Conducting fieldwork at both sites of practice meant that, to study the process of transition, I could zoom in and out (Nicolini, 2010a) on the practices of seafaring at and across both sites. Zooming in allowed a focus on the processes of transition at a single site and zooming out allowed the tracing of connections between the two sites and the influence of the movement between the two sites on learning.

3.2.1.1 Zooming In And Out On Practices

Having explained the research design, the focus now shifts to using the lens to study the practices of seafaring. For my study, I have chosen to use Nicolini's (2010a) method of zooming in and out to 'interrogate' the

practices of seafaring (Nicolini, 2010a: 1412). There are two aspects of practices, the first is the sayings and doings of everyday work activities and the second is the historical situatedness of these doings and sayings, which exists with a nexus of interconnected practices. For example, we can look at a meeting between a PhD student and her supervisor; one aspect of the practice is to focus on the doings and sayings in the meeting, what is being discussed, what is being done. However, this is only one aspect; this meeting takes place within a wider nexus which looks at the university setting, the mediating artefacts of the office within the business school the role of the supervisor within the UK education system, and the role of the PhD student within this field. To theorize practices, we need to 'zoom in on' the actual work of the practice and then zoom out to 'see the connection between the here-and-now of the situated practicing and the elsewhere-and-then of other practices' (Nicolini, 2010a: 1392, 1400).

Zooming in on practices can take place in many ways; for example, by focusing on the material and discursive aspects of practices using selected methodological tools such as conversation analysis and ethnomethodology. It can be done through focusing on the 'accomplishment of meaning' and the 'lived directionality' of the practices (Nicolini, 2010a: 1403). 'Zooming in would imply, in this context, bringing forward such practical concerns which reflect the sense and direction of the practice and which govern—albeit non-causally—the production of sayings and doings' (Nicolini, 2010a: 1403); that is, the aim of the practice, 'what needs to be done' is produced and negotiated within the sayings and doing of the people and materials involved in the practice. Zooming in also allows for a focus on the bounded or situated nature of practices, this is done by focusing on the 'lexicon' and the 'repertoire' of the practices and, furthermore, by focusing on how novices learn these local features of the practice. Hence, zooming in can also focus on learning and legitimation.

If zooming in on practices means focusing on the saying and doings, and the sayings and doings are sustained over time, then to understand how and why these doings and sayings persist over time we need to focus on learning. In this way, learning brings practices to the fore (Nicolini, 2010a: 1406). The final way, according to Nicolini, of understanding practices is to zoom in on 'the patterns of relationships among human individuals and how such patterns are learned and made durable' (Nicolini, 2010a: 1406). This requires zooming in on the learned and negotiated nature of practices, but it also allows us to realize that practices occur within a wider field of interconnected practices and to understand practices we need to zoom out to comprehend this larger field and how it affects the practices on which we zoomed in.

Zooming out on practices leads to the change of focus from the practice itself to an emphasis on the connections between practices. It requires a 'switch' in the theoretical lens (Nicolini, 2010a, 1402). In this case, rather than focusing on the nuances of the practice, the lens shifts to the 'trailing connections' between practices (Nicolini, 2010a: 1408). This can mean shadowing people and the connections they make or material artefacts or events and strategies (Nicolini, 2010a: 1408). Zooming out allows for an appreciation of the 'texture' of practices to see how, within one practice, others are invoked as well and to see how other practices carry the traces of the one that was zoomed in on. For Nicolini (2010a) there are two aspects to zooming out; the first following connections between practices and the second how these connections remain in place (Nicolini, 2010a: 1408). This is done in my study through the multi-sited ethnography, which allowed me to trace the connections through observations and interviews at each site.

Within the scope of my study, the two research questions work to zoom in and out on the practices of seafaring, specifically the practices of

navigation. To answer the question 'how do newcomers gain access to increasing levels of participation in the practices of seafaring?' the idea is to zoom in on the practices of seafaring aboard the ship. This helps focus on how newcomers through doings and sayings negotiate access to participation at a particular site of practice. To understand the influence of movement between sites of practice on the process of transition, I zoomed in on the practices at the training center and zoomed out to study the practices at both sites in which newcomers engage. This allowed me to look at the connections, the translocal aspects between the sites of practice and the changes in the process of transition at each site that newcomers need to navigate in order to transition.

3.3 Background to Industry

My research site is the maritime industry. Theories of learning as LPP have primarily focused on skill-intensive industries where learning has traditionally been an apprenticeship style. Therefore, the maritime industry is well suited for my research. The aim of this research is to explore how cadets develop seamanship. I understand that while sailors follow a particular career trajectory, they encounter different learning trajectories. This is also influenced by the experts in the COP, trainers, teachers, and captains on the participation and learning of the cadets. Right now, the maritime industry, as with many others, is facing the challenge of employability and retention of new officers.

As one of the oldest and truly international industries, the maritime industry accounts for the transport of ninety percent of global trade (International Maritime Organization, n.d.). Additionally, shipping is a high-risk industry. According to The International Transport Workers Federation, 'Seafarers have a one in 11 chance of being injured on their

tour of duty – much higher than other occupations' (International Transport Workers Federation, n.d.). According to an article published in the Guardian,

> 'The ocean is the most dangerous workplace on the planet. Commercial seafaring is considered to be the second-most dangerous occupation in the world; deep-sea fishing is the first. Each year, 2,000 seafarers lose their lives' (George, 2015).

The international nature of the industry and the dangers of life at sea have made training in this industry an essential aspect of becoming a member to the COP. This training aspect has changed considerably in the last 50 years. What used to be primarily an apprenticeship model, where cadets would join a ship and apprentice under the tutelage of a captain, was replaced with mainly shore-based training and standardized rules put forth by the IMO through the STCW regulations (Sampson & Tang, 2015). Through the years, the STCW has worked as a standardizing guideline for maritime training providing minimum international requirements for training. Along with the STCW, the training has national variations – each country interpreting the guidelines to suit its training models; this is also further divided according to company standards that usually require additional training for upgrading. This move from the traditional apprenticeship style model creates new challenges for the cadets as newcomers to a COP. Shore-based training has been criticized for its movement away from training at sea and focuses on more of the academic notions of seafaring than learning in practice under the tutelage of officers (Mack, 2007).

Within the maritime industry, seafarers are divided into two categories: the deck and engine departments. Within the deck and engine departments, the seafarers are then divided into further subcategories – management level officers, operational level officers and support staff. See Table 3-1 below for the division. Operations and, therefore, training differs according to position. Starting with a cadet training program and ending with the

management level license interspersed with on board experience, see Table 3-2. For the purpose of my research, the focus will be solely on the deck department.

Table 3-1 List of Positions On-board

Department	Level	Rank
Deck	Management Level	Master, Chief Officer
	Operational Level	2nd Officer, 3rd Officer
	Support Level	Boatswain, Able Bodied Seaman (AB), Ordinary Seaman (OS), Deck Cadet
Engine	Management Level	Chief Engineer, 2nd Engineer
	Operational Level	3rd Engineer, 4th Engineer
	Support Level	Wiper, Fitter, Oiler/ Motorman, Engine Cadet
Catering Department		Chief Cook, Trainee Cook

Table 3-2 Minimum Requirements for Position in Deck Department (International Maritime Organization, 2011)

Position	Minimum Age	Minimum Competency Requirements	Minimum Sea-Service Requirement
Deck Cadet	18	High school Diploma	N/A
Third Officer (Ships of 500 gross tonnages or more)	18	Officer in Charge of Navigational Watch License. Have performed the required seagoing service, bridge watchkeeping duties under supervision of master or qualified officer for a minimum period of 6 months. Met the STCW standards of competence for officers in charge of navigational watch.	12 months as part of cadet training programme or else 36 months
Second Officer (Ships of 500 gross tonnages or more)	18	Officer in Charge of Navigational Watch Licence. Have performed the required seagoing service, bridge watchkeeping duties under supervision of master or qualified officer for a minimum period of 6 months. Meet the STCW standards of competence for officers in charge of navigational watch.	12 months as part of cadet training programme or else 36 months
Chief Officer (Ships of 3,000 gross tonnages or more)	18	Have approved education, training and meet the standards of competence specified in STCW Code for masters and chief mates on ships on ships of 3,000 gross tonnages or more.	12 Months as OOW
Captain (Ships of 3,000 gross tonnages or more)	18	Have approved education, training and meet the standards of competence specified in STCW Code for masters and chief mates on ships on ships of 3,000 gross tonnages or more.	36 months as OOW or 24 months if 12 of these months were served as Chief Officer

3.4 Access

Mack (2007: 379) notes,

'Globalization of the maritime industry creates specific challenges associated with the location and evocation of

knowledge about lived experiences at sea; where increases in maritime safety and security measures (*especially after 9/11*) also compound some of the traditional issues associated with getting in and gaining access to seafarers.'

The maritime industry is a closed industry; however, within its confines, it is also closely connected. Having an already established personal network within the industry was an advantage, and it was through this network that I was put in touch with the gatekeepers of the organizations. Hence, gaining access to the organization was a relatively painless process in comparison to the stories I heard from colleagues and read within the literature. However, there was also preplanning involved. Once I had the idea to work within the maritime industry and focus specifically on maritime training, I conducted preliminary research into how the training and learning within the industry was done and the potential gaps in the training that this research might help address. Using this, I formulated a letter to potential organizations stating the aims, objectives of my research, how it could be conducted and the possible benefits of taking part in the study. This, along with my CV, was initially sent to members of my personal network affiliated with the industry who suggested names of potential organizations.

In all, at this time, I gained access to four organizations including two maritime training institutes and two organizations. A training center in India was used to conduct the pilot study for the research – providing a useful site to try out different methods and to gain initial themes and insights into the field. A majority of the research was conducted at a ship management organization whose name has been changed to Crewco to preserve anonymity. The site for this research was chosen purposively – that is, it was selected for its specific characteristics. Crewco does the bulk package of crew management, so ensuring the licenses, insurance, payments, etc., and in doing so they also take on the risks. Consequently, if anything goes wrong and it is related to the human element, it is Crewco

rather than the shipowner who must pay. Therefore, training is a large part of the organization.

There are three levels of seafarers that Crewco provides – Support Level, Operational Level –and Management Level. Due to client demands they also provide the technical management for certain clients. The advantage of choosing this company was also its size, being so large most of the training as mentioned above takes place in-house. Due to the practical, financial and time restrictions of the PhD, it made sense to work with a company where most things were done in few physical locations. This is especially important in the context of the maritime industry that tends to be geographically dispersed.

The company also does recruitment in-house and has built its own recruitment and training centers. Its main office is in Cyprus which is the central base of operations. Crewco has a training department CCTC (pseudonym) that runs as a subcontractor for the in-house crew management department, which is the strength of the company. The reason for the focus on training is not because they want a competitive advantage, though that does happen, rather because of the risk they take on as crew management. A team that looks after training is only possible in a company this size - economies of scale. They have two training centers one in the Ukraine, Odessa and one in the Philippines, Manila. Along with these, they have eight offices in the Ukraine, four in the Philippines and others in Eastern Europe.

3.4.1 Access to the Organization

Access to Crewco was achieved through a formal top-down approach. The initial green-light was granted through an email from the owner of the company. He stated that the management had conducted an internal meeting and agreed to allow me to conduct my research with them. He also

put me in touch with the Director for Training Captain W who was based in their head office in Cyprus. An email was then sent to Captain W restating my research aims and we set up a Skype meeting to discuss the specifics of the research. During the call, we discussed my requirements, and I was given a choice to go either to their training facility in Ukraine or the Philippines. I decided to choose the Philippines for three reasons. The first was the ease of language; most people in the Philippines can speak English to a degree where conversation is easy. Due to the nature of my research where informal conversations, interviews, and observations are important, language becomes key. The other reason was the unstable political situation in the Ukraine in 2014-2015 making the Philippines a better option. Additionally, from a maritime training perspective, the Philippines is also important as it accounts for almost twenty per cent of the world maritime fleet. Hence, if I wanted to look at maritime training and the human element, the Philippines became an ideal option.

3.4.2 Background to Crewco Training Center (CCTC)

CCTC is a maritime training center in Manila that provides training courses for the Filipino crewmen, cadets and officers (accounting for fifty per cent of Crewco crew) as well as third party training for clients. The cadets who come to CCTC are selected from maritime colleges around the Philippines. After successfully passing the entrance exams and interviews they are enrolled onto the three-year deck cadet program at the CCTC training center in Manila.

What they do is because of a lack in the Maritime education system in the Philippines. Per the management at CCTC, they learn incorrect practices and have to unlearn these practices at CCTC. They have put into place a proposal for a train-the-trainer program, which is to be funded by the maritime education institutions themselves. One of the managers mentioned

that only five out of 100 cadets pass the CCTC entrance exams which are created by Math teachers at CCTC, based on what they are already supposed to know [CCTC Field Notes].

The Western European tradition of maritime training heavily influences the training at CCTC. According to one of the training consultants at CCTC, the training, here, is necessary because the European Maritime Safety Agency (EMSA) stated that Filipino seafarers were not competent, and the training they get in the colleges is not adequate. Sampson and Bloor (2007) note the case of the Philippines, which is important for my study as the focus is primarily on Filipino seafarers. They state that a "white-list" compiled by the IMO includes a list of countries that 'demonstrated full compliance' with the STCW requirements. There were, however, concerns raised as to the importance of certain countries in terms of labor, such as the Philippines (which accounts for twenty per cent of global seafarers) could not be exempted from the white-list. This is an important point from the perspective of maritime training because companies such as Crewco realize the deficiencies within the national maritime education system and seek to bolster their own training initiatives within the organization (Bloor, Sampson & Gekara, 2014).

Consequently, CCTC has to take over the charge of training them in the academic tradition. According to the training managers at the Crewco head office, the company works on the basis of a controlled accelerated promotional program, which means that they control the quality, shorten the time and still ensure the successful completion of each seafaring phase. One of the managers at the head office described this as a continuously "moving escalator". If someone tries to leave the escalator or stay on an intermediate step, it creates a backlog of the people below and, hence, a problem in the system. To stop this from happening, CCTC works to improve the decision-making capabilities of the seafarers, introducing

logical thinking and problem solving by focusing on subjects such as, math and physics which they believe, over the years, leads to an improvement in these areas. They also motivate them to work towards management level.

The company statistics, compiled for an industry seminar, show that between 2000 and 2010 in the wider industry, out of an intake of 100 cadets normally less than 20 take on management level officer positions and less than 30 make it even to operation level officer positions. The CCTC records show that in their case, out of 100 cadets around 90 made it to operational level officer positions and 50 made it to management level officer positions. Hence, it is an important site at which transition happens.

CCTC is divided into three main parts: the training center, the operations department, and the residential block where the cadets as well as the officers who come for upgrade training stay. The cadets at CCTC live and train here for the ten months of their shore-based training. The daily training schedule follows similar timings for the day-work on the ship. The cadets have breakfast at 0600, and classes start at 0800. All cadets are expected to be in uniform, which is a white shirt with black trousers and black shoes. There is a break in the class from 1000 -1100 then back to class till 1200. Lunch is from 1200 to 1300, classes begin again until 1500, break from 1500-1530 and then end at 1700. Dinner is from 1830. The cadets have breakfast and dinner at the residential block and lunch is served at the training block. There is a curfew at 2230. Apart from the maritime training, the cadets also have residential duties, which include helping at the reception in the residential block, signing people out if they are going to the gym or play in the recreational area and on Saturdays they have general cleaning duties, which are supervised.

In terms of the training, the program is divided into three sections. There seems to be a progression through the training. For example, in the first

block, the cadets learn the foundations, math, physics, ship's technique is learned first, then technical navigation, terrestrial navigation, seamanship theory and practical are learned. After three months of training, they go to sea for ten months, where they are expected to complete the ISF training record book to document their experiences. When they return from their sea-time training, they move on to the so-called major subjects in the second block, which include passage planning, meteorology, maritime law, and collision regulations, among others. Access to information and resources is built gradually. After the second block, they undergo an additional eight months of sea-service, where they go on board as ratings. After returning to the training center, the focus of the third block is that the cadets complete the training and additionally prepare for their Officer In Charge of Navigation Watch licensure examination and Certificate of Competency. The training courses in CCTC and on board are structured as per international standards set out in the STCW. Once they have completed this program, they appear for operational level license exam (national) before they go on board as junior third officer. The table 3-3 below lists the details of the training in each block.

Table 3-3 Deck Cadet Training Program

Block	Deck Cadet Courses
1st Block	Math 1 D
	Ship's Technique and Technology
	Physics 1 D
	Technical Navigation 1
	Terrestrial Navigation
	Seamanship (Theory)
	Hazardous Materials for Prospective Officers
	Pre-Departure Briefing with officers
	Pre-Departure Orientation Seminar
	Seafarers with Designated Security Duties
	Computer Based Training
2nd Block	Pre-Course
	Meteorology 1
	Math 2 Deck
	Physics 2 Deck
	Maritime Law
	Passage Planning 1
	COLREGS (Collision Regulations)
	Ratings forming Part of a Navigation Watch
	Ship Manoeuvring and Handling
	Stability and Trim
	Celestial Navigation
	Stability and Trim 2
	Ship's Manoeuvring and Handling for Cadets
	Progressive Leadership 1
	Practical Bridge Watch keeping
3rd Block	Pre-Course
	Math 3 Deck
	Cargo Handling and Stowage
	Physics 3 Deck
	Maritime Law 2
	Progressive Leadership 2
	Consolidated Marine Pollution
	ECDIS (Electronic Chart Display and Information Systems)
	Ship Simulator & Bridge Teamwork with Bridge Resource Management
	Practical Bridge Watchkeeping
	Maritime Law 3

Concerning the class structure, the training is divided into classroom-based training, which is theoretical, and two types of practical training. The practical training includes simulation training which is carried out on the full mission bridge simulator, the mini bridge simulators, GMDSS, and the ECDIS simulators. Practical workshops comprise the other practical training types, this includes working areas such as the forward and aft mooring stations, pilot embarkation ladder, container lashing facilities,

cargo lashing platform and firefighting training facility. The shore based training periods are punctuated by two sea service periods each lasting between eight and ten months, detailed in figure 1 below.

Start of Cadet training program at Crewco | 1 st Block training - 4 months at CCTC | 12 months sea time as Cadet | 2nd block training - 4 months at CCTC | 10 months sea time as Deck Rating | 3rd block training - 4 months at CCTC | Complete training program and join ship as Third Officer
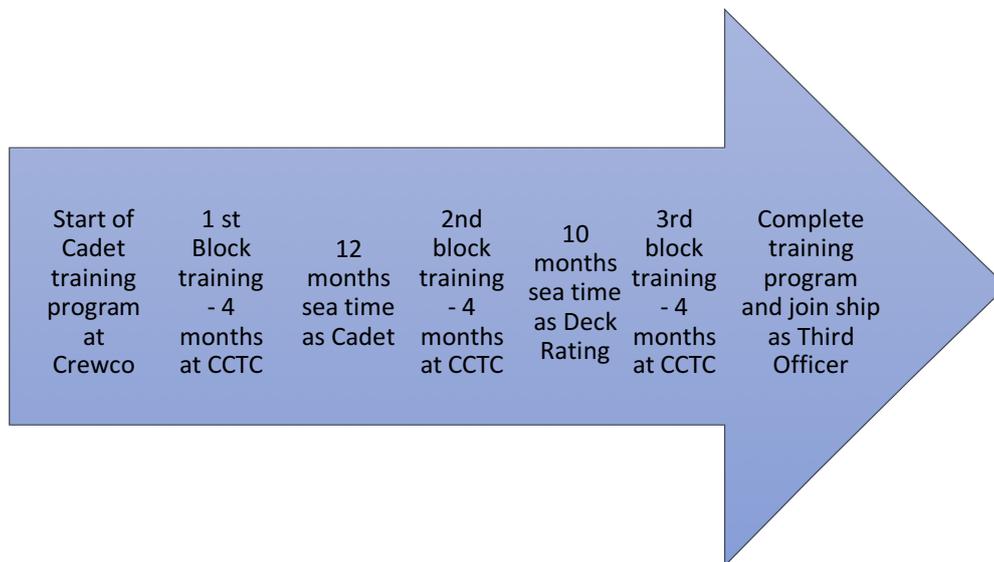
Figure 1 Deck Cadet Training Program

3.4.3 Access to CCTC

Once the training center in Manila, Philippines, was chosen as the site of the research, further emails were sent back and forth to discuss the timeline. I was put in touch with the Director of the training center to organize the logistics and specifics of data collection. Captain W was also keen that I visit the head office in Cyprus to understand the context within which the training center operated. Hence at the beginning of January 2015, I went to Limassol to spend a week at the head office with the Training Department to understand how the training was developed and managed. During this time, I conducted a series of meetings with Captain W and also with other managers in the training department during which I was given the opportunity to learn about the company and also about their view of the industry. We also discussed the potential of doing a shipboard assignment for a month for me to understand the actual work practices of the seafarers

and to see how they learn on board. Captain W also told me that during my time in Manila I would have carte blanche as far as my research methods and access was concerned, so I had the freedom to move around in the organization as I liked. After my time in Cyprus, I headed to Manila to conduct my research at the training center – CCTC.

Gatekeepers also controlled access to CCTC; however, as the top management at the head office had already granted access, the process to gain access here was more informal. On my first day at CCTC, I had a meeting with the director of the training center, and I reiterated my research objectives and aims and the methods for conducting the research. A part of the informality also came because we had been in touch via emails before my arrival in Manila. After the initial meeting, I was introduced to the training coordinator who helped me plan the timetable and logistics of the research and became my point of contact at the training center. She introduced me to all the staff at the training center.

As with any case of ethnographic research, access was continuously negotiated and maintained. However, this was a relatively straightforward process as the management, the instructors and the students at the training provided enormous support and help during the research project. Everyone was open, friendly, and approachable and I was able to participate in a number of informal gatherings. A considerable advantage was that CCTC has its own dormitories on site and a hotel on the top floor. This meant that informal conversations over dinner, lunch and in the corridors, were possible. A large part of the access negotiation process took place with the cadets, referred to as prospective officers in the organization, who were the principal participants of the study. This access was negotiated, again, in a top-down manner, as the instructors usually introduced me, or I introduced myself at the beginning of each class.

3.4.4 Background to Ship as a Site of Practice

On board the ship there are three distinct territories of practices (Yanow, 2006; Gherardi, 2016) that come together for the ship to be operational, the practices of navigation, the practices of deck work and the practices of maritime engineering. These three practices have central hubs where they are located, the navigation practices on the bridge, the deck work on the deck and the engineering practices in the engine room. On the deck, the cadets can observe the work of the ratings. They are able to observe and participate in mooring and unmooring operations, shipboard maintenance, cleaning, taking tank soundings, cargo operations such as loading and unloading the cargo, keeping a watch on the cargo and, when in port, they would keep a gangway watch. They would have access to the knowledge of (relative) old-timers, but these would be engaged in different practices than the practices on the bridge.

Deck work is physically demanding and often involves long hours of repetitive tasks. Furthermore, the boatswain, along with the chief officer, acts as a gatekeeper for deck practices and these practices, in turn, can affect the cadet's access to the practices of navigation. The bridge is the hub of navigational practices. If cadets have access to the bridge, they potentially have access to observing the use of navigational equipment such as the radar, GMDSS, navigation console and the ECDIS. Furthermore, they are able to see navigational charts; they can observe the officers on their watch, how they work with the materials, how they respond to other ships in the vicinity and how they use the communication equipment. Moreover, they have access to the (relative) old-timers, their experiences and how they performed their work. The position and responsibilities of each rank is detailed in table 3-4 below.

Table 3-4 Deck Department Work Practices

Rank	Responsibility
Master	Overall in charge of the ship. The legal representative of the ship-owner. Final responsibility for safety, security of the ship and compliance with statutory requirements.
	Ship's business.
Chief Officer	In charge of the deck department. Responsible for cargo planning and safe carriage. Cargo loading and discharging.
	Ship's stability.
	Navigational watch, Cargo Operations, Mooring and Unmooring
	Deck and deck machinery maintenance. Planning/resource allocation. Security
Second Officer	Navigational watch at sea. Cargo/Port watch in port
	Assist chief officer
	Mooring/Unmooring
	Upkeep and maintenance of navigational publications and equipment
	Ship's medical officer
Third Officer	Navigational watch at sea. Cargo/Port watch in port
	Assist chief officer
	Mooring/Unmooring
	Upkeep and maintenance of Life saving and Fire Fighting equipment.
Cadet	Follow chief officer's instructions and complete tasks prescribed in company training manual/training record book.
Boatswain	In charge of deck crew
	Deck equipment maintenance. De-rusting/painting, lubrication, cleaning
	Mooring unmooring, cargo stowage/ securing
	Security/ Anti-piracy
Able Seaman (AB)	Navigational watch/ lookout. Steer the ship manually when required (helmsman)
	Deck work as directed by Boatswain
Ordinary Seaman (OS)	Same as AB

Officially, per the training policy of Crewco, cadets are supposed to have time and learning opportunities both on the deck (with crew) learning the practices of seamanship, and on the navigation bridge (with officers) learning the practices of navigation. However, Crewco being a third-party manager means that they have little control or monitoring over the actual

practices on board as each ship owner or principle might enforce the cadet training in different ways. Being the crew manager, Crewco has little influence in this matter. They can have a larger degree of influence over ships under full management, and there is a hope that as the captains and management officers are mostly from Crewco as well, they will follow the company policy on training on board; however, findings will show that this is not necessarily happening. The field notes below were notes after a conversation with two training consultants at CCTC about the role that the organization plays regarding training on board.

The ships that are under Crewco management can be influenced so that the captains train the cadets. However, for some of the third-party clients, they need to be told that this must be done. Even the influence on the captains is limited. The cadets are expected to familiarize themselves on the bridge, that is the point for the cadetship, and they are also told that they should ask for the opportunity instead of waiting for someone to give it to them. This also builds their soft skills, being proactive [CCTC Field Notes].

The merchant navy, to a large extent, still holds a quasi-military approach to work. This quasi-military approach is noted through the division between officers, as well as officers and ratings, in terms of practices, space, social relations, and materials. On MV Sea-Line for example, the accommodation was divided as follows, just below the bridge are the captain and chief engineer's cabins; no-one was permitted access to this floor. On the level below were the second officer and second engineer's cabins along with a cabin for passengers. Then there was the third officer's cabin (where I stayed), the boatswain's and the ABs' cabins. On the last accommodation level were the OS cabins, the cadet, the wiper and the chief cook's cabins. Below that was the galley and two mess halls which were separated into the officers' mess and the ratings' mess. The workspaces on board were also hierarchically determined, that is, the

ratings worked on the deck, primarily, with some tasks on the bridge if required by the officers, while the officers worked mainly on the bridge. This, in turn, meant that the practices of the deck department were divided between the ratings who did the deck work and the officers who were in charge of navigation, safety and security of the ship (See Appendix B for field note sample of shipboard familiarization). Due to the nature of the occupation, there was a lack of divide between the work and life aspects on board. Hierarchy influenced both these aspects; one example of this is that everyone on board was called according to their ranks rather than by name, this was also noted by Sampson & Thomas (2003) in their work on the merchant navy.

As shown in table 3-4 on board the ship each officer has designated duties; the captain is in charge of overall ship management; the chief officer is responsible for the cargo operations; the second officer is usually in charge of the navigational charts; the third officer (if present) in charge of the safety. The cadet, on the other hand, comes on board initially as a learner during the first sea-time training and as a rating during the second sea-time training contract. During their first contract, their role as a learner seems to be more fluid and is interpreted differently by different members. Access to participation in practices is mediated by the officers on board as well as the work practices on deck (Gekara, 2009; Caesar, Cahoon & Fei, 2015).

The uncertain work environment, tremendous natural forces, and large economic scale leads to an environment where safety and accountability become paramount. Another reason is the transient nature of the industry, as well as frequent changes in the composition of the crew, which adds ambiguity. These combined issues mean that rank rather than interpersonal relationships drive access to participation in certain sites of practice. Hence, the rank bestows the initial access to certain sites of practices across different ships. This notion of seafaring as a high-risk occupation industry

is noted in the training center where there is a large degree of focus on accidents at sea and avoiding these mistakes in the future. During conversations, especially with officers, it was brought up that the rigidity stems from the notion that in a dangerous situation everyone should be able to follow the captain's command and there is no room for debate. Furthermore, while the individuals on board the ship might change, the activities on board the ship remain constant. This, in turn, has an impact on how activities are carried out, by whom, where (in which part of the ship) and when ("dangerous" shifts of dawn and dusk being denied to inexperienced officers).

3.4.5 Access to MV Sea-line

After conducting my study at CCTC, I was granted access to a ship called MV Sea-line that was under Crewco management. MV Sea-line is a container ship that sails from Rotterdam to Le Havre, calling at ports in Bilbao and Gijon in between. She is a small feeder vessel, which means that she picks up cargo (containers) from ports and drops them off to the central container terminal in Rotterdam where the cargo will be loaded onto bigger vessels. Due to the size of the ship, she has a small crew, of twelve; the vessel did not have a third officer on board. Access to MV Sea-Line was negotiated initially with the Training Department at the Crewco head office who put me in touch with their operational department in Rotterdam. The office in Rotterdam arranged for my visit on board the ship, as well as the visa documentation. In Rotterdam, I was met with an agent who arranged for my transport to the ship and introduced me to the captain on board.

Access on MV Sea-line needed to be negotiated with the captain and then with individual members of the crew. On the first day on board, I had a meeting with the captain where we discussed the scope of the research and

what I wanted to do while on board. Access was granted to observations on the bridge and officers; access to the deck was restricted due to reasons of safety which meant that I could go on the deck, but only under supervision. The captain also introduced me to the officers, and I negotiated access to interviews with the ratings via the chief officer. Furthermore, informal access was negotiated at each entry to the bridge where I would ask if it was acceptable for me to observe particular procedures. Interviews took place when the ship was at sea as this meant freer time for the crew as opposed to when the ship was at the port because port operations usually meant that the crew and the officers were busy. There were four crew changes during the month that I was on board, this involved a change of the second officer, a cadet, an OS and an AB, each time there was a crew change I had to negotiate access to the new crew members to spend time with them and conduct interviews.

3.5 Ethics

Ethics are especially important for qualitative researchers because of the intensity of the contact we have with the world of study and the people within it. As Stake (2005: 459) notes 'Qualitative researchers are guests in the private spaces of the world. Their manners should be good and their code of ethics strict.' This means that the study has to ensure that neither the participants nor the organization as a whole is harmed through the research by closely following the guidelines for ethical conduct in business research (Bryman & Bell, 2011).

During the research process, I adhered to the ethics guidelines by first ensuring that the aims of the research were made clear to the participants and the organizations before the ethnographic study following the principle of informed consent (refer to Appendix A for samples of consent form and

participation information sheet). The gatekeepers at the organizations were provided with a letter outlining the details of the proposed study. After gaining access, a meeting was conducted with the gatekeepers to outline the dos and don'ts while at the organization and another meeting was conducted just before starting the research. Subsequently, during the interviews, the participants were provided with a project information sheet outlining the details of the project and were asked to sign the university's consent form upon completion of the interviews. The participants were reminded that participation was voluntary and that they were free to leave. They were also informed that I would seek to maintain their anonymity and privacy. This will be guaranteed through data protection.

All the data has been stored on a password-protected computer. The names and identifying remarks of both the individuals and the organizations have been excluded or changed. During observations, consent was taken from the gatekeepers at each site, additionally, during each formal observation I asked if the participants were comfortable with me being there. I also asked certain participants, such as the training instructors and the officers on board, where I should position myself and if they were comfortable with me audio recording the observation sessions. Names of the organization and the participants observed were also anonymized in the field notes.

3.6 Data Collection Methods

In the field data were collected through observations, interviews, documents and informal conversations. Following the selection of an organization and gaining formal access, data were gathered through a five-month ethnographic study, through observation and interviews research methods. I observed different individuals at various stages in their career trajectories. Additionally, the career trajectory at Crewco spans two

different institutions, the maritime training center and the ship. Hence, the ethnographic study took place at two different sites – four months at the training center and one month on board the ship. The following, table 3-5, gives an overview of the data collected during the research (see Appendix C for further details).

Table 3-5 Overview of Data Collection

Location & Time	Research Method	Sessions	Duration (each)	Total Time	Data Volume
CCTC Manila 4 months	Observations	30	3.5-7 hours	158.5 Hours	439 pages
	Interviews	28	30-120 minutes	21.9 Hours	792 pages
MV Sea-line 1 month	Observations	30	0.5- 2.5 hours	53.5 Hours	132 pages
	Interviews	14	30 -120 minutes	10.98 Hours	356 pages

At CCTC, preceding my arrival in Manila, Mr G had been in touch with me regarding what I would like to observe. We had decided that I would spend three months at the training center conducting classroom observations of the various training courses for prospective officers and officers undergoing upgrade training. The timing of the observation was decided using a timetable of courses happening during my visit and then selecting the courses I wanted to observe. After the first month, I would start with the interview process and would determine the interviewees based on the class observations. Additionally, when I was in Cyprus, Captain W had asked me to go over a list of prospective officers to select those I wanted to interview so that they could be informed as soon as possible. Hence, at CCTC I spent four months living at the training center, in the accommodation reserved for company guests, which was part of the building where the cadet training took place. At MV Sea- Line, I was given access to one month on board the ship, during which time I lived on board the vessel for one month,

conducted daily observations and started the interview process after one week on board.

3.6.1 Observations

Brewer (2000: 6) notes,

> 'Ethnography is the study of people in naturally occurring settings or 'field' by methods of data collection which capture their social meanings and ordinary activities, involving the researcher participating directly in the setting, if not also the activities, to collect data in a systematic manner.'

While ethnography encompasses a wide array of research methods, observation is one that has been long associated with ethnographic research through the work of social researchers, such as Van Maanen and Kolb (1983, and Barley (1986). Observation in a field setting involves looking at as well as listening to the interactions and doings that take place within such a setting. As Van Maanen (2006: 18) notes,

> 'Ethnography maintains an almost obsessive focus on the "empirical." The witnessing ideal with its intense reliance on personalized seeing, hearing, experiencing in specific social settings continues to generate something of a hostility to generalizations and abstractions not connected to immersion in situated detail.'

This is particularly important because, from a practice perspective, 'social and organizational life stem from and transpire through the real-time accomplishments of ordinary activities' (Nicolini & Monteiro, 2017: 111). To make sense of these 'real time accomplishments of ordinary activities' I needed to observe the mundane, ordinary activities. Ethnographic observation involves being in a naturally occurring setting, looking at and listening to what is going on and recording those experiences. Due to the danger of observing everything without focus, Silverman (2006: 89) cites

Emerson et al.'s (1995: 146) set of questions when making field notes. These questions served as a good tool initially to make sense of what was going on in the setting, these are noted in table 3-6, below.

Table 3-6 Questions to Guide Field-Notes

1. What are people doing? What are they trying to accomplish?
2. How exactly do they do this?
3. How do people characterize and understand what is going on?
4. What assumptions do they make?
5.Analytic questions: what do I see going on here? What did I learn from these notes? Why did I include them?

During the fieldwork, three research notebooks were maintained, these included formal observations, social interactions, and personal notes, as well as the initial memos created while in the field. Formal observations were recorded in-situ; social interactions were recorded after the fact. Additionally, when possible, the observation sessions were also audio-recorded, which helped relieve some burden of missing an essential aspect of what was being said, and allowed me to pay attention to the looking point of observation (Silverman, 2006).

3.6.1.1 Conducting Observations at CCTC

On the first day at the training center, Ms. C and I went over the timetable which had details of the classes I would observe each day, the duration, room number, and name of instructor. The classes would usually last from 0800 to 1700 with a break between 1000-1030, 1200-1300 and 1500-1530. It had been decided earlier that I would observe classes specifically from the deck department. In all, 30 formal classroom observations were conducted over a period of four months lasting an average of 5.5 hours each. Initially, an effort was made to observe classes each day and a new class every day to obtain an overall view of the training courses. However,

as time passed the number of observations was reduced to ensure time for analysis and writing field notes. The idea behind the classroom observations was to obtain a sense of the practices of training and formal learning that took place in the organization. This was done to gain an understanding of how novices learned in a materially different environment than the one in which they worked; the influence of the trainers on the learning and the context within which these practices took place.

Formal observations were noted as the classes were being conducted and were also audio-recorded to allow me to access the data in case more information was required (See appendix B for field note sample from CCTC). Opportunities for informal observation took place usually at meal times or when for special courses such as a third-party training course that I was invited to sit in on and an immersion course for math and physics teachers from local partner colleges in the Philippines. Field notes from daily observations were written up as brief notes during the day and were subsequently rewritten as extended memos in a fieldwork diary at the first available time. Some informal conversations took place each day, usually lasting for a few hours. These were mainly with two retired German captains who were working as consultants for the company to reorganize and develop the training programs and another retired British captain who was in Manila to develop a training course for management level officers at his organization. These conversations provided a particularly useful source of data through narratives from their sailing days, their expert opinions on the prospective officer training and were immensely helpful for me to understand the language and principles of the practice with which I was unfamiliar. Additionally, informal conversations during lunch and dinner were usually observed with the management team at the company.

3.6.1.2 Conducting Observations at MV Sea-Line

On MV Sea-Line the idea was to spend time observing the work and life at sea. During this time, I lived on the ship along with the crew in the cabin reserved for a third officer. I ate meals with the officers in their mess and primarily spent my time on the bridge with officers to understand navigational practices. As mentioned earlier, due to reasons of safety I was not allowed to go unsupervised on deck, which limited the observation of deck work. During my first week on board, I was given a familiarization of the ship where I was guided through the ship structure. Here, I was shown the deck by the second officer on board, the mooring stations, the stores, the main deck where the cargo was loaded, the gangway, the cargo operations room, the accommodation block, the mess rooms, the galley, the engine room, and the bridge (See appendix B for field note sample from MV Sea-Line). The observation sessions included observation of navigational practices such as keeping watch at sea, berthing and un-berthing at port, master-pilot interactions at port, approach and departure from port, anchorage, and drills. Additionally, I went up to observe the watch of each of the officers to learn about the practices that were particular to their ranks. Usually, I would spend 0.5- 2.5 hours on the bridge and one hour at each meal time for social interactions. Furthermore, I spent additional time on the bridge for social interactions on occasion.

As at CCTC, informal conversations with officers and ratings during meal times or with officers during their watch were also noted. These proved useful for clarifying points that were unclear during operations. Moreover, meal times were useful for observing interactions between officers and crew in an informal setting. There were instances when formal procedures described during bridge observations or interviews were formulated again in terms of what happened in practice. For example, during an initial talk with the chief officer about the cargo operations, he described the ideal process; however, the next week over lunch when I asked him how the

cargo operations had proceeded that morning he highlighted the breakdowns and tensions within the process that were not mentioned in the earlier talk. Furthermore, the social interactions at meal times were useful in obtaining information about the lives and work of the officers in a more informal setting, which also helped to start building their trust. The data collected also include personal notes of experience on board, documents and interviews with all crewmembers. A particularly useful time for data collection was during the watch with the officers on the bridge, where we spent time discussing their opinions about the training on board as well as generally within the industry, as well as their personal trajectories and experiences on board.

3.6.2 Interviews

The second data collection method used was the interview. Qualitative interviewing, according to Fontana and Frey (2005: 698) is 'one of the most common and powerful ways in which we try to understand our fellow humans'. This research uses a mix of two interview techniques – semi-structured and a special interview technique called interview to the double (ITTD) (Nicolini, 2009). The semi-structured interviews provide an ideal compromise between the openness of the unstructured interviews and the closed structured interviews, giving the researcher a degree of control of the flow of the interview while allowing the freedom to pursue unexpected avenues.

The semi-structured nature of the interviews provides a degree of flexibility to explore unexpected themes and narratives brought up during the interview. The open nature of interviews also allows the researcher to understand different perspective and interpretations. It is an especially useful tool to 'understand experiences and reconstruct events in which one did not participate' (Rubin & Rubin, 2005: 3). Furthermore, it provides

additional insights from the members of the COP of the practices that are taking place at a given time. As Rubin and Rubin (2005: 27) suggest, 'to interpretive constructionist researchers, how people view an object or event and the meaning that they attribute to it is what is important.' The researcher has to be sensitive to the fact that an interview is 'not a neutral tool' (Denzin & Lincoln, 2005: 643). The researcher's presence and the nature of the interview must have some impact on the interviewees' responses.

As mentioned earlier, the interviews were divided into two parts, the first being a semi-structured interview and the other being the ITTD. The interview to the double (ITTD) is used to gain further insight into the ways in which members of the COP engage in their day-to-day routines. According to Nicolini (2009: 3), ITTD is a,

> '…technique which requires interviewees to imagine they have
> a double who will have to replace them at their job the next day.
> The informant is then asked to provide the necessary detailed
> instructions which will ensure that the ploy is not unveiled and
> the double is not unmasked.'

Nicolini (2009) suggests that the ITTD method is best suited as part of a larger ethnographic study as it allows the researcher to explore the normative and moral dimensions of practice. Used along with a qualitative interview technique, it also allows the researcher to gain a sense of the routines and practices of the individuals. Furthermore, it provides a normative account of practice – 'the local conventional idea of the "good"' (Nicolini, 2009: 15). Practice, as Nicolini maintains, 'always needs to be brought to the fore, it needs to be made visible, articulated, and turned into an epistemic object in order to enter discourse' (2009: 4). The mix of methods used as a part of my ethnographic study tries to do this.

3.6.2.1 Conducting Interviews at CCTC

In all, 28 interviews were conducted with cadets and officers from different ranks each lasting between 30-120 minutes. All interviews were conducted face-to-face at the training center, usually in an empty conference room. Ten interviews were initially conducted with cadets – two from the first block, six from the second block and two from the third block. These interviews were conducted in semi-structured interview style using an interview guide developed during the pilot run in India and, subsequently, reformulated during phases of data collection to draw out emerging themes. This was helpful for interviewing the prospective officer who shared similar experiences at the training center and as cadets and ratings on board during their vessel assignments. For officers who had different learning and career experiences additional questions were added to the interview guide to draw out their on-board experiences.

The semi-structured interview provided rich information about their experiences and perspectives as insiders in the COP (See appendix B for interview sample). The first question always asked was 'can you tell me bit about yourself?' followed by their reasons for joining this career before delving into questions about their work practices and learning as these introductory questions put the interviewees at ease. The interviewees were asked at the beginning or during the interview if they could supplement their answers with accounts, narratives or examples from their experiences. This was not always successful but, sometimes, rich narratives were given.

Trust was key to the interview process, and sometimes the interviewees would want me to reiterate that the interview was confidential. Questions of learning were asked beginning with 'can you tell me a bit about your learning experiences on board/ at the training center?' This question allowed me to understand the meaning they ascribed to learning and what kind of learning they thought took place. One of the problems discovered

during the initial interviews was my role as an outsider to the COP. During these initial interviews, the interviewees would not give detailed accounts using their language because they thought I would not understand the terms. Hence, efforts were taken to ask a few technical questions to make them understand I would know the terms and words used in their work processes. Usually, however, I took the role of the learner seeking to understand their world, their perspectives, understandings and their way of life.

As far as possible the interviewee's accounts were uninterrupted apart for verbal or physical acknowledgment that I was following them. Questions or probes were asked for clarification or to redirect the interview question to a new focus. The example below demonstrates the probe:

I: And can you tell me a little bit about the experience that you had? I know that I am asking you to look quite some time back but as a cadet on board the ship, what was that like?
I15-O6: The thing about the cadet is because it is very intimidating for us when you go on the bridge. Moreover, you know, when you go there and ask for something, for help probably from officers.
I: And what was intimidating about it?

Conducting these interviews before moving onto the ITTD style also allowed me to establish at least building blocks of trust making it easier for the interviewee to understand what was required from the process.

During the ITTD I would ask interviewees to imagine that they wanted a period of 24 hours off the work clock. To this, they had created a clone of themselves; they had to give the clone a detailed idea of their daily routine, providing the clone with the information required to successfully take over tasks during the 24 hours so that the ship command and their colleagues on

board would not realize that the clone was not the actual person. This was a particularly successful technique to elicit their daily routines (see sample in Appendix B for details). It was also a good learning experience as an outsider to the COP to understand some of their work practices made explicit.

3.6.2.2 Conducting Interviews at MV Sea-Line

Over the course of the month that I spent on board MV Sea-line, I conducted 14 semi-structured interviews. The interviews lasted between 110-122 minutes; these were recorded in the Supernote app, some notes were taken during the interview, but most of the time was spent listening to the interviewee and engaging with them. As with the interviews at CCTC, care was taken to minimize interruptions during the interviews.

At this stage, the first round of analysis was done, and the interviews at this site were focused on the emergent themes that were found interesting. All members of the established community on board were interviewed, this included officers and ratings from both deck and engine departments as well as two deck cadets. Furthermore, as the practices of seafaring were being observed in-situ, ITTD interviews were not done; rather, the focus of the interviews included questions that were specific to the work practices of the ranks that were observed on site.

Similar to the interviews conducted at CCTC, the interviews began with asking the interviewees to tell me a bit about themselves, this gave the interviewees the chance to become comfortable with the interview process. Usually, this question also elicited the trajectories of the crew members before coming on board. From this starting point, the interviews focused on the work practices of the members as well as their learning processes. This included questions such as 'Can you tell me about the work you do? Who

do you work with? What do you do?', 'Are there any differences between what the standards dictate and what is done on board?' 'When would you deviate from the rules and how do you learn to make that judgement?' These questions were followed by probes or a small deviation from the interview guide if a new line of questioning emerged.

For interviews with the deck cadets, questions also focused on their transition from the training center to the ship. Questions focused on the similarities, and differences in practices they observed between the training center and the ship, and the learning opportunities that they experienced on board. This was done through questions such as 'do you get the opportunity to go up to the bridge?', 'what do you do on the bridge?', 'what kind of interactions do you have with the officers and the crew?', 'Are there any tasks on board that you did not anticipate doing? If so, what were they and how did they make you feel?', 'Do you notice a change in the work you do as you gained more experience?', 'How did that make you feel?', 'How long before you felt confident in performing a new task?' The small number of crew on board meant that if there was clarity required on any of the questions, I could ask the members during meal times or on the bridge during watch.

3.7 Data Analysis

The aim of this research is theory development; hence, inductive analysis, borrowing from principles of grounded theory serves well as a tool for analysis. Thomas (2006: 238) states that the 'inductive approach is a systematic procedure for analyzing qualitative data in which the analysis is likely to be guided by specific evaluation objectives.' This follows Strauss and Corbin's (1998:12) notion that 'The researcher begins with an area of study and allows the theory to emerge from the data.' While this research

started out with research questions to work as guidelines for the data collection process, once in the field the scope of the study changed considerably. Hence, data collection, literature review, and analysis took place iteratively (Watson, 2012). From the initial data analysis, new research questions were formulated which acted as guiding parameters for subsequent data collection and theory development (Watson, 2012).

In ethnographic research, data analysis takes place throughout the research from the pre-field analysis where the general direction of the research is identified, to the analysis in the field itself where themes start to emerge (Hammersley & Atkinson, 2007: 159). This is then used to focus the next interviews or observations. Once repeating themes of concepts emerge from the data they are noted and categorized. Grounded theory does this by asking the researchers to make constant comparisons between data – comparing emerging and preceding data and theoretical sampling – working iteratively between the theory being built and the data that is focused upon (Glaser & Strauss, 1967).

Inductive analysis works well with the iterative nature of ethnographic research (Glaser & Strauss, 1967; Corbin & Strauss, 1990). This research follows the Glaser & Strauss (1967:79) idea of building a theory from a substantive one – using previous theories on the subject that provide 'initial direction and 'possible modes of integration.' However, one must be wary of turning theory development into hypotheses testing due to reliance on prior knowledge. This is also advocated by Gioia, Corley and Hamilton (2012: 21) who state, '"There is value in semi-ignorance or enforced ignorance of the literature if you will'. From this perspective, my study uses a particular analytical strategy, that is, Gioia et al.'s (2012) strategy for inductive analysis, as explained subsequently.

3.7.1 Organizing the Data

As mentioned earlier, the data analysis process in ethnographic research starts with the first bit of data collection. During the data collection stage, field notes were written and stored first using a combination of written notes in a field notebook and the Supernote app. These notes were then transferred to Microsoft Word. As they were written, using the review section, comments were added to the margins, of potential codes that emerged from the process. These were revisited after a period of one month to check if the concepts held true after more data were gathered and if the initial codes could be renamed. The same was repeated with the interviews once they had been transcribed. Following Glaser and Strauss (1967) and Gioia, Nag and Corley (2012), there was constant comparison across the data gathered from informants, during interviews, observations and social interactions over the period of the study in order to find patterns in the data. Stake (2005: 454) states that triangulation is, 'a process of using multiple perceptions to clarify meaning, verifying the repeatability of an observation or interpretation.' By using multiple data sources in triangulation between observations, interviews, and social interactions, the patterns emerged not through one data source but, rather, through a more comprehensive analysis across different data sources.

3.7.2 Analyzing the Data

Once the initial data gathering was completed, the data were input into the Nvivo11 application, and the process of open coding began through the reading of the data. The data were sorted by type of data source divided by observations, which included social interactions and interviews. The raw data were added to the program, and the initially found codes were input along with new ones that emerged through the re-reading of the data. As the general focus of the study was to understand the process of transition

within legitimate peripheral participation, the initial codes focused on aspects of legitimate peripheral participation found within the data. As familiarity with the research sites and literature grew, new codes were found which focused on aspects of learning unique to the settings. After inputting the initial codes, the data were re-read to observe whether the codes could be merged, or needed to be deconstructed for further analysis. The initial codes that were similar were assembled into first order categories following Gioia et al. (2012). As the study had two research questions, from the start, I was cognizant of what concepts might apply to the questions. As the analytical process continued, the divisions between the research questions allowed for further refining of themes in order to observe whether the emergent themes could help answer the questions. This is reflected in the two data structure tables 3-7, 3-8, each of which deals with a particular research question.

After first order coding, the literature was revisited and, using both the raw data from the field-notes and the literature, small theoretical memos were created. At this stage, the codes were collated into broader themes during the second order analysis. After the themes had been noted, the scope of the research was refocused to include the themes. At this stage, a second more comprehensive literature review was undertaken in order to understand the context surrounding the themes (Corbin & Strauss, 1990: 9-10). Here, the relationships between the themes became the focus in order to find the 'aggregate dimensions.' The following tables demonstrate the data structures for the research questions. The first data structure table 3-7 is related to the first findings chapter of the study, titled, Learning through Movement Between Sites of Practice. The second data table 3-8 is related to the second findings chapter of the study, titled, Negotiating Access to Participation.

Table 3-7 Data Structure 1 – Learning through Movement between Sites of Practice

First Order Concepts	Second Order Themes	Aggregate Dimensions
Learning Math and Physics Learning Manual Calculations Learning why or understanding the principles is deemed important	Learning Academic Principles of Navigation	Learning Distinctions before going to Sea
Learning by looking but not through manipulating equipment Learning about the Ship through photos and videos Learning Practical Seamanship	Learning practices through Piece-Meal Simulation Training	
Calculations and manoeuvres had short cuts on board Regulations followed only on paper	Learning different ways of doing	Re-Drawing Distinctions at Sea
Manoeuvres performed at different in practice Procedures on board were different from what was learned at the training centre	Experiencing Working in Practice	
The calculations were done differently on board Math and Physics were seen as unhelpful on board	Challenging Theoretical Understanding	Making Connections Post Sea
Use of simulation was helpful on board Training allowed POs to feel comfortable Comprehending the shipboard scenarios became easier	Perceiving Simulations as more than a game	
Learning core competence as important for future work as noted by trainers Commercial and operational pressures noted by officers	Different Goals	Legitimizing to Different Old-Timer Groups
Captains have a different training style, not trained in academic tradition. Captains provide opportunity to participate POs are assessed through questioning	Teaching Styles	
Skilfulness as understanding the principles of navigation Skilfulness as passing assessments Skilfulness as going beyond the requirements Skilfulness as being able to perform tasks	Skilfulness	

Table 3-8 Data Structure 2 – Negotiating Access to Participation

First Order Concepts	Second Order Themes	Aggregate Dimensions
Inability to leave ship meant lack of avenue for stress Movement of sea led to seasickness or lack of sleep Difficult to carry equipment on board led to body ache Working during bad weather conditions was hard Body could not handle the work Observing bodily movements of old-timers	Physically Demanding Work	Body work
Awareness of areas not to be touched Nervousness when touching or handling equipment Feeling of amazement at equipment	Coping with Fear	
Decision to sleep or go to the bridge Accepting work opportunities despite tiredness Going to the bridge after 8 hours of day work Not going to the bridge due to tiredness Getting used to the work meant lack of tiredness	Tiredness	
Going to the bridge Asking officers for opportunities to learn on the bridge Importance of going to the bridge in terms of learning Officers provided familiarisation of navigational equipment Exposure to using navigational equipment Progressive learning in terms of using materials	Seeking opportunities for participation in specific spatial territories	Spatiotemporal Work
Asking for learning opportunities after completing given work Working overtime for opportunities to learn Knowing when to ask for opportunities	Seeking opportunities for participation at specific times	
Asking questions about work practices Asking informed questions Seeking advice about future work Asking first then performing Demonstrating eagerness to learn Seeking opportunities for participation on deck Asking for opportunities to participate on bridge Looking at opportunities to participate as part of training	Seeking Information	Developing Sensitivity to Practices
Good appreciation for the process Preparing to take on role of senior ranks Learning through observations Learning when officers are busy Preparing for job on bridge Understanding responsibility and safe practices	Knowing whom to approach when and where	
Officers respond proactively when intention to learn is demonstrated Officers display positive emotions when POs seek opportunities	Positive Response to initiative taking	Willingness to allow participation
Sharing informational material with POs Teaching POs to operate equipment Asking another officer to teach as preparation for future officer roles	Initiative to Teach	

3.8 Reflections on the Research Process

Atkinson and Hammersley (1994:249) speak of ethnography as well as social research and state, 'In a sense, *all* social research is a form of participant observation, because we cannot study the social world without being a part of it.' Following the onto-epistemological underpinnings of my research detailed in section 3.1, this statement rings true because there is no reality out there of which the researcher is seeking to be a part. Engaging in social research involves constructing a shared reality through interactions with the participants as the research process takes place (Cunliffe, 2016). From this starting point being reflexive about the role of the researcher becomes an important consideration. Writing on reflexivity, Cunliffe (2003) maintains that reflexivity involves a reflection on our philosophical commitments as researchers and exposing these commitments to critical reflection. Furthermore, she states, that 'reflexivity also raises fundamental questions about our ability as researchers to capture the complex, interactional and emergent nature of our social experience' (Cunliffe, 2003: 984). Hardy, Phillips, and Clegg (2001) echo this statement; they state that reflexivity in organization studies involves the inclusion of the researcher in what is being studied. In this sense, it is important to explain my role as a researcher in the study. This is done in two ways, first by reflecting on my identity and the power relations or questions of legitimacy that arose in the field.

I approached all organizations for my study as a student researcher, sending each organization a project information sheet, cover letter, and my academic CV. One of the reasons why access was a relatively smooth process was because access to the organizations was negotiated through my father and his friends who had worked both with the owner of Crewco, with Captain W who was in charge of the training department and with the gatekeepers at CCTC. This was the potential reason that I was given carte

blanche access to the organization's training center. At Crewco, my role was interpreted by the management as that of a student researcher, but also that of an outsider who could give them a new perspective on their training. Arriving in Manila, my identity as a researcher was reinforced through each introduction via the gatekeeper who introduced me to the faculty. In the classroom training this identity of the researcher shifted, I found that I perceived myself as a learner and a researcher in the same role. I realized this after the first two weeks of fieldwork, where my notes reflected not only what was happening in class, but also the content of the classes. Having been in higher education as a student for a while, this was a role that felt more familiar than that of a researcher. Once this was noted, I still took notes on the contents of the class but also tried to critically reflect on what was happening within that setting from a situated learning perspective.

My role as a student researcher had to be negotiated not only in the classrooms but also during the interviews. Both cadets and officers treated me as a conduit to make their voices heard by the management. For example, in one of the interviews, an officer implied that I could help him get a job for his younger brother. In another case, a cadet mentioned that he thought the sea-time training should be supervised more. This was usually brought up in interviews when I asked the question, 'is there anything you feel I have missed out, or anything you would like to add that you feel important?' At this point, I would mention that the study aimed to be descriptive rather than prescriptive and that I would provide a report to the management about my findings and the end of the research. I did pre-emptively state that I was conducting the research as a part of an independent study and that all personal information would be confidential, this is addressed in further detail earlier in the chapter (section 3.5)

On board MV Sea-line, I assumed the same identity of a student researcher and learner, however, during my interactions with the crew members, I was also ascribed the identity of an outsider from the perspective of seafarers, this was particularly true as I had not sailed before. In order to negotiate this identity, I did mention that I had accompanied my parents as a child on board oil tankers and while I was an outsider to their community, I had heard stories from my father about his sailing days and his role as a member of the community. As I spent time on board, my role changed from being an outsider to being, an interloper, someone who was interested in their lives and work. Hence, this positioned me as someone who would acknowledge their version of the 'us' and 'them' culture between the sea and shore.

Furthermore, during the interviews, social interactions and if asked during the observation sessions in the classrooms and on board MV Sea-Line I would position myself as a learner. This meant that I would state that I was new to the industry and did not know much about the practices of seafaring. The naivety of the role of the learner allowed me to probe assumptions that the participants made about their world and work practices. It helped me to understand the assumptions of the community better. At CCTC I also developed a close relationship with three experienced captains who were working as training consultants there. This relationship was extremely useful as I had a sounding board to reflect on my observations from the day, usually over or after dinner. These relationships and those with other participants took time to cultivate and staying at the training center was good because I had daily interaction with the participants and the people which allowed for the formation of these relationships. However, during interviews, I found that positioning myself purely as an outsider or a learner meant that the participants would gloss over details of their work assuming that I would not be able to understand the technicality of their work.

A point to be mentioned is my identity as a female in a predominantly male-dominated industry. At CCTC this was not much of an issue because there were other women at the training center. At this point I had already conducted ethnographic studies in the industry at three different sites, two studies in India and one in the UK; this meant that I was familiar with being the only woman in a classroom or office that was predominantly composed of men. At CCTC my identity as a woman came into play during the classroom observations when cadets were distracted by my presence in class initially; however, this was managed by training instructors who either joked that they should pay attention to the lesson and not to me, or they re-iterated my role and my reason for being there. Prior to going on board MV-Sea Line, I was apprehensive about being the only woman on board, especially after reading Sampson and Thomas's (2003) account of conducting ethnography at sea as female ethnographers and the risks involved. Talking with my parents, especially my mother about her experiences at sea, when she sailed with my father, helped allay some of the fears. My connections with the company, being at CCTC and talking also with acquaintances I made helped prepare me for spending a month on board.

On MV Sea-Line at the beginning of the ethnographic study, the captain asked me to greet the crew as they wanted to know if there was a lady on board. They were as unused to my presence as I was of being on board, and I think a large part of the smooth process was that the captain and the senior officers were accepting of my presence on board. The trepidation of being the only woman slowly went away. An aspect that did cause difficulty on board was being sea-sick. Sea-sickness was something that I did not think I had to contend with because it was never a problem when I sailed with my father as a child. However, on board MV Sea-Line especially during rough weather conditions, sleeping and eating became a

problem when the ship constantly pitched at rolled. On those days conducting observations and interviews was a challenging process.

This leads to a reflection on the power relations that exist between the researcher and the participants. Due to the access of the research setting, there was a curious power dynamic, while the gatekeepers controlled access to my participation as a researcher in the settings, as I had secured access in a top-down manner, the power relations between the gatekeepers at the sites of practice and myself were negotiable. While gatekeepers at CCTC were comfortable with me having access to participants, information, and space, on MV Sea-Line, access was negotiated primarily with the captain. This meant that he had more power in terms of controlling access to participation, space, time and information. For example, as mentioned earlier, I was not allowed on deck unsupervised for safety reasons. Another example was when I tried to negotiate a shadowing session with the cadet and was told that I could speak to him after he had completed his day work if he was willing and not tired. My position of power relative to the gatekeepers also sheds light on my legitimacy as a learner on board. As I mentioned earlier, I found myself unconsciously falling into the role of a learner during the classroom sessions.

Upon reflection, during my nine months of data collection, at Crewco and other organizations, I participated partially in the training process that the cadets underwent. I sat in their classes, did some of the compulsory training such as firefighting, went to a ship visit to familiarize myself with the setting and underwent sea time experience. However, being an outsider, I was given opportunities for participation that were not extended to the cadets, this involved access to old-timers, resources, and spaces that the cadets were not given.

3.9 Summary

To conclude, this chapter sought to explain the research methodology that underpins my study. To understand the process of transition in the practices of seafaring, the research assumed a social constructivist ontology and an interpretivist epistemology which formed the philosophical basis for choosing a qualitative research design. Due to the focus of this research on situated learning and practices, multi-sited ethnography was chosen as the best-suited research design. The study used data collected through observations and interviews to zoom out and in on the process of transition. The data were analyzed through an inductive thematic analysis. Finally, a brief reflective comment on the role of the researcher was provided. Having explained the research methodology of the study, it is time to focus on the findings that emerged from the analysis. The next chapter will highlight the findings that emerged from zooming in and out on the process of transition in the practices of seafaring.

4 Learning Through Movement between Sites of Practice

This chapter aims to zoom in on the practices at the training center and zoom out on the two sites of practices - the training center (CCTC) and ships - in which newcomers participate to transition from newcomers to fuller participants. Through zooming in and out, the chapter focuses on learning through movement to answer the research question: how does movement between sites of practice influence the process of transition? The chapter traces the movement of the cadets over three phases between the two sites as they seek to become seafarers. The key aspects of the three phases are detailed below.

Phase 1 focuses on the cadets' participation at CCTC prior to their first sea-service contract (4.1). Here, the analysis reveals that cadets learn through connecting aspects of the practices at the training center with aspects of ship board practices. Connecting refers to forming links to the practices of seafaring on board the ship (hereafter referred to as shipboard practices). Analysis of the data reveals that cadets make connections in three ways, (1) between the theoretical principles and the shipboard practices (2) between the past present and future practices (3) between tasks and the courses of actions ("if-then" connections). Making connections helps cadets draw preliminary distinctions about potential courses of actions. Drawing distinctions refers to Tsoukas and Vladimirou's (2001: 977) notion of being able to differentiate between 'this' and 'that'. Learning to draw distinctions helps newcomers start to understand the potential courses of actions available to them and which courses of action are correct and incorrect.

This can be conceived as, do this, not that. Furthermore, analysis reveals that cadets make these connections through *forming connective visions*. *Connective vision* is the term I use to describe the activity of envisioning links between sites of practice through the use of dialogical and material apparatus.

Phase 2 focuses on the cadets' sea-service contracts (4.2). Here, the focus is on their participation on board the ship, which reveals new ways of doing in comparison with CCTC and experiencing the "real life" of the practices of seafaring. Differences between the sites lead cadets to start disconnecting with CCTC practices in order to start participating as competent practitioners. Disconnecting, here, means that cadets start re-evaluating and disassociating with the previously formed links between sites of practice. Disconnecting is seen in three ways: (1) through the changes in forms of participation; (2) through changes in ways of demonstrating skillfulness; (3) through changes in ways of doing. This, in turn, causes the cadets to redraw or revise (Tsoukas & Vladimirou, 2001) the previously learned distinctions. Disconnecting and re-drawing distinctions lead to a transition in identity from CCTC trainee to member of the crew.

Phase 3 focuses on their move back from the ship to CCTC (4.3). Here, the cadets start reflecting on the similarities and differences between the sites of practice. Reflecting, here, refers to the process of evaluating or assessing experiences (Jordan, Messner & Becker, 2009). Furthermore, they start to discuss and debate the usefulness (or not) of the theoretical principles to work on board. In doing so, the cadets start to refine the previously redrawn distinctions through reflection. On the whole, the chapter shows the influence of movement between sites on learning and demonstrates that the process of transition is episodic, whereby the process of transition is

divided into multiple parts or episodes which are marked by shifts or disjuncture between sites.

4.1 Phase 1 - Learning Connections Before Going to Sea

The section below highlights certain aspects of the experience of the cadets at CCTC before going to sea for their first sea-service contract. The cadets, during the first phase, have had no real experience of being on the ship, most would not have seen ships in real life and would have no experience of what life and work on board entail. Due to the lack of sea-service experience, the cadets, as new entrants to the community of practice of operational seafaring, are introduced to the practices of seafaring through their participation at CCTC. As discussed in detail, next, through participation at CCTC, cadets start connecting the practices at CCTC with shipboard practices. Making connections of different kinds helps newcomers gain a sense of the potential courses of action available to them as newcomers on board ships. This, in turn, helps them start to draw distinctions as to the correct courses of action on board. Furthermore, the section will demonstrate how newcomers use the dialogical and material apparatus available to them at CCTC to from *connective visions* between sites of practice.

4.1.1 Learning Theoretical Principles of Seafaring and Knowing Why

Capt V goes on to explain shear force, which can be caused by disproportional weight distribution. This information is available on the

stability computer but, without knowing why, the computer readings will make no sense and will not be useful. He says that this is called the classical beam theory and gives them the formula for the bending moments. He says that they need to understand the formula but not the details as that is for the marine engineers. He then asks if on a beam there is a point where there is no bending moment. Next, Capt V moves to Hook's law, that is, the elasticity of a spring. Capt V says, "if I keep hitting your face constantly it will be deformed". The cadets laugh. The same thing, he says, happens to steel. This also impacts the type of steel used in ship construction. He uses Hooks Law to derive the formula for elasticity.
[Vignette 1]

The vignette above captures the use of academic principles, in this case, physics, to learn seafaring. An essential aspect of learning at the training center was the emphasis on learning the academic principles behind work practices on board. In the vignette, Capt V explains shear force, which is caused by disproportional weight distribution caused by cargo and ballast water. The shear force on the ship is calculated by a stability computer, but knowledge of what causes the stress (the why of it) is needed in order to make sense of the calculations of the computer. He uses related principles of physics, such as Hook's Law and bending moments to link the shipboard work to physics further. Through learning these principles of physics the cadets are learning how cargo should be loaded (to reduce the shear stress on the ship within her design limits), and they are learning about the reasoning behind this way of doing, that is, knowing why. Knowing why is important to appreciate the operating limits of the equipment and design considerations. For example, by understanding the physics of it, one can appreciate the safe working load of a crane and what can happen if this is exceeded.

There are two reasons why math and physics or scientific principles are used to explain the work practices on board. Firstly, grounding in academic principles might help legitimize certain courses of action to the newcomers. The courses of action refer to the potential ways of doing. At CCTC the courses of action are the ways of doing that the newcomers will engage in on board the ship. The cadets at CCTC have completed three years of maritime education prior to entering the training center. However, they have not been to sea yet. Due to their background in maritime education, they are more familiar with the academic style of learning than with shipboard practices. Hence, linking shipboard practices with principles of physics or math gives the cadets a familiar line of reasoning from which to draw distinctions.

The second concerns the generalizability of scientific principles. Ships are isolated workplaces. Sampson (2013: 119) notes, 'Ships are places where displaced people come together and form occupational communities, which are themselves isolated from wider society.' The isolation that Sampson notes, is both social and physical. If something goes wrong on board, help might not be readily available because of physical distance from shore and from other ships. Moreover, if design limits are exceeded, an accident can take place. In reaction to this, the company seeks to ensure that the community on board is self-sufficient in so far as possible. Furthermore, the forces at play on board are vastly different to those found at CCTC or in the average workplace. Accidents on board, if they happen, can be costly in terms of lives and finances. Hence, safety culture and knowing why, potentially, something has gone wrong, become important aspects of practice.

The above findings highlight the importance of knowing why as part of learning the practices of seafaring. In learning the theoretical principles of navigation, the cadets are connecting the theory with the shipboard

practices. Consequently, they are learning new distinctions based on an understanding of the rationale as to why certain courses of action are correct or incorrect. Cadets, at CCTC, need to demonstrate that they understand these theoretical principles, this necessity of understanding is described in the vignette below.

Capt V continues working out the formula wanting to get it to the point where they first started. He asks them what conclusion they can follow, stating that this formula is what the entire ship construction and their lives on board are based on. Asking them, also, to state what the neutral axis of the ship is, one of the cadets states that there is no pressure on the neutral axis of the ship. Another states, that the larger the moment of inertia, the lesser the bending stress. Capt V says that he is correct and then asks him why this is so. The cadet is silent. Another cadet states that because of the mass. Capt V asks what the mass is? The cadet is silent. Capt V exclaims – "the area, gentlemen!" The larger the area, the less the bending stress. All of this affects the design of the ship, the reason why there is a deck. [Vignette 2]

For the trainers at CCTC, skillfulness (Hislop, 2008) was demonstrated through the cadets' understanding of theoretical principles and being able to link these principles to the practices of navigation. For example, in the vignette above, Capt V asks if on the ship there is a neutral axis, and the cadet is unable to answer the "why is this so?" Part of becoming legitimate peripheral participants in the practices of the seafaring involves learning to be competent in the manner acceptable and recognizable to the group of old-timers at CCTC (Schatzki, 2005). The competence at CCTC is gauged through the training and assessments which tested the cadets on knowing the answer to "why and where did it come from?" and they need to give a reasonable account for why this is so (Gherardi et al, 1998). An example of the types of question asked is illustrated below.

The ship is bound to Norfolk, US East Coast. Departure: 17.01.2014 –
0600 UTC. Ship's speed: slow steaming = 14 knots

> *Calculate the GC distance and initial course from Lisbon to*
> *Norfolk.*

Start: N38°33' W 009° 26,6'

End: N37°07' W 075° 40.'

> *What is your ETA for Norfolk*
>
> *How many climate zones you are passing? See route planning in the*
> *appendix.*
>
> *How many load line zones does the ship pass?*
>
> *To what load line zone must the ship be loaded in Lisbon? Explain*
> *your answer.*
>
> *Which wind cell or cells are affecting the voyage?* [Excerpt from
> Exam, Document]

As can be noted from the questions above, the cadets were being required to use their knowledge of math and physics theory to be able to calculate the great circle (GC) distance. Hence, they are learning why through theory and how through the calculation they will perform on board.

 The difference between knowing what, or that, and knowing how has been the subject of previous practice studies (Brown & Duguid, 1998; Orlikowski, 2002; Duguid 2005), and studies of situated learning have concentrated on knowing how (Orlikowski, 2002: 250). Alternately, Tsoukas and Vladimirou (2001) state that, for individuals to exercise judgements, they need to have an appreciation for theory which allows an individual to take findings across contexts. Participating in the practices at CCTC cannot prepare the newcomers for every situation on board. However, part of the process of transition is learning to interpret how the rules apply to the situation at hand and this is only possible if newcomers are aware of the rules and the rationale behind them. Awareness of the rules

and their application on board is realized through making connections between the why and the how aspects of courses of action. Consequently, connecting knowing why and knowing how helps newcomers legitimize certain courses of action which, in turn, helps them draw distinctions about the correct and incorrect courses of action on board. The link between making why-how connections and drawing distinctions can be conceived in Tsoukas & Vladimirou's (2001) terms as do 'this' not 'that' because of the rationale behind the rules. The rationale behind the rules allows newcomers to understand why a particular course of action is more appropriate than others. Learning the rationale behind the rules is important because it is what allows newcomers to interpret, cope with, follow or unfollow rules in a given situation (Schatzki, 2005).

Cadets connect theory and practice using dialogical and material apparatus. That is, stories, anecdotes, diagrams, simulators and photos, become concrete representations of the future world of practice that the cadets are yet to experience. Through using dialogical (anecdotes and narratives) and material apparatus (diagrams, photos, simulators) newcomers envision the how-why connections. This is demonstrated in the example below. In the example, the instructor is explaining the importance of squat calculations to the cadets using narratives of famous ship accidents where the captains did not calculate the squat[1] correctly.

Capt D narrates the story of a passenger ship - Queen Elizabeth 2 which grounded in 1992. They had a problem with the navigation chart and the increase in the draft, because of the effect of squat, which caused the ship to run aground. He then gives a newer example of the Costa Concordia and asks the cadets if they know why the ship ran aground. The captain

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[1] Squat Effect is when the ship moves through shallow water, because of the displacement of water an area of low pressure is created under the ship which pulls it closer to the seabed.

wanted to create a "wow factor" by allowing people onshore to see the ship and the passengers close-to, and so deviated from the planned route, moving closer to the shore; in the process, they hit a rock and ran aground. The captain did not check the under-keel clearance and did not know the squat. Capt D shows them a photo of the vessel as it was sinking. [CCTC Field Notes 1st Block]

The accidents of the Queen Elizabeth 2 and Costa Concordia are famous, not only within the industry but also to the general population. In telling the story of the Queen Elizabeth 2 and Costa Concordia, the instructor ties the narrative to the importance of correct squat calculations. Through the narration of these incidents the cadets form connective visions of the theoretical principles, that is, the squat calculation and the importance of these calculations on board. Hence, knowing why squat is calculated in the certain way helps newcomers understand how squat should and should not be calculated. Using narratives within the context of the classroom serves as a warning to the cadets of what should or should not be done in certain situations on board.

4.1.2 Learning through Connecting Past, Present, and Future

Don imagines what it will be like when he starts to sail. He has not seen a ship outside of pictures and the TV; it is difficult for him to imagine what life and work on board will involve. The instructors at CCTC try to incorporate images of ships, diagrams, or stories to show them what ships and the work on board are. There are also photos of cadets working on board, of ship decks and engine rooms on some walls around CCTC, which help give a sense of what being on board is like. Don is also aware that the daily routine at CCTC, the muster in the morning, the meal and break times

and the curfew are there to help make the shift to life on board. [Vignette 3]

Through participation at CCTC, cadets also start connecting their present training practices with future work practices. They start connecting the work that they will do on board during their sea-service contracts and the work that they will do as officers. In the vignette above we see that Don forms these connections through using photos, diagrams and stories, which help him envision what life and work on board will be like in the future. Connection between past, present and future practices is noted in the following example. The extract below is from classroom observation where the cadets were learning about painting the ship. On board, chipping (de-rusting) and painting is a common task given to cadets; they are asked to chip the old paint off the deck, de-rust it if required, apply primer and then paint it which is why they are learning the theory behind it at this stage. The topic deals with the corrosion of steel. The ship's hull and most of the equipment on board is made of steel and sea water is very corrosive. Paint prevents corrosion and if the paint is missing, the steel will corrode and waste away. This is a task that will not be performed by the cadets on board; rather, it takes place when the ship goes to dry dock, and it is the duty of the chief officer to check the paint.

Next, they move onto self-polishing copolymers. These ensure that along with the biocides the paint layers also reduce, which means that the surface will remain smooth, leading to less resistance on the underwater area. This topic deals mainly with the underwater area. The underwater area requires nine layers, unlike the deck area which has five layers. Capt G asks them why this is so. First, the cadets say it is because of water; then one of the cadets amends his answer by saying that on deck you can keep an eye on and maintain the paint, but you cannot inspect the underwater area, which is why it requires more layers of primers and antifouling with self-polishing

effect paint. Now they also check the underwater paint and fuel consumption, so charterer and owners want the ships in the dry dock more frequently for underwater painting. Dry docking is a highly expensive event so the ship owner will want to send a ship to a dry-dock only when required by regulations (once in five years). So, the paint thickness is calculated to last for five years. It is the duty of the chief officer, during dry-dock, to check that the paint is correctly applied as per the ship's paint scheme.
[CCTC Field Notes, 1st Block]

The cadets will not be using the information provided for years to come, and here they are not learning how to perform the check that the chief officer must perform. However, they are learning about other aspects of the practice. They are learning about who they, as officers, will be accountable to (Wenger, 1998) in the future, that is, the owner of the vessel, the port authorities and the charterers. Moreover, they learn about part of their potential future duties as chief officers, that is, looking after the ship in dry dock and checking the paint scheme. Here the cadets are connecting what is being taught at CCTC, that is, the present, to their future work practices, chipping and painting on board. Furthermore, they are making connections between what is being learned now and what might be useful for them to know as chief officers. Through connecting between the present and the future, the cadets are learning to draw distinctions in the here and now, as to what is required of them as they progress towards fuller participation. Here, they are gaining an understanding of what courses of action they need to take in the future to move towards fuller participation, both as a cadet transitioning to officer and as chief officer transitioning to captain. In doing so, cadets are starting to learn the course of their inbound trajectory (Wenger, 1998) in the practices of seafaring.

Cadets connect the past, present, and future trajectories through envisioning by using narratives shared by old-timers in the classroom or in nautical

publications. The interview extract below seeks to highlight narratives as apparatus used by the cadets to envision future practices. The narrative was accessed through reading nautical publications. Stories in nautical publications enable cadets to envision the possibilities of performing as officers on board the ship. The captain in the narrative below used the effect of squat to reduce the height of the ship so that it could pass under the bridge. In this case, reading the story created a sense of awe in the cadet, a sense of possibility that in the future he could perform such actions as well.

I: Do you read any online journals about the industry or online publications?

I5-C3: Yes. One reason that I have become superior is what I have read before, I have an article that I read on how amazing the captain was on this ship. They were transiting in the canal, the ship, and there was a bridge and there is, ship is supposed to be hitting that bridge but somehow, they didn't. I was amazed about how the captain did that.

I: Yeah, yeah, I remember this example. I read it today but I can't remember the name of the ship and then he used the effect of squat, right, to make sure that the ship …

I5-C3: … that it will pass under the bridge. I was amazed by this. For me that story wow! I can do that.

In the example above, the cadet is connecting the present participation at CCTC, learning squat calculations with his future participation as an officer being able to use squat to maneuver the ship to safety. In making these connections he is able to envision the possible courses of action available to him and how his present understanding of squat calculations can help him perform dangerous maneuvers in the correct way as an officer. Here, we see the link between connecting present and future work practices and drawing distinctions because through connecting the cadet is learning how

the theory he is learning in the present, that is, how to calculate the squat, can be used to perform certain courses of actions in the future, that is, using the effect of squat to help the ship pass under a bridge. As drawing distinctions about courses of actions is related to do this or that, the cadet is learning to draw distinctions in terms of the potential courses of action available to him in the future from his participation at CCTC in the present (Hager & Johnsson, 2012).

Another way in which newcomers connect past, present and future work practices is through their interactions with the instructors at CCTC. Personal stories told by the old-timers help cadets envision the links between what the instructors did in the past, what the cadets are doing now and what the cadets as officers will do in the future. In terms of the past, instructors represent people who have already participated in practices, the stories they tell are from the past. They represent how things were during their time, and this is reflected in their practices at the training center as well. They represent the future because as officers, especially those who are captains or chief officers, they represent the identities that the cadets seek to attain (Lave, 1993/2010). For the newcomers, then, they represent the range of possibilities available to them. It is important to note that the old-timers at CCTC belong to the same COP as operational seafarers because they are all engaged in the practices of seafaring. For operational seafarers on ships, this is an easy link to make. However, the engagement with the practices of seafaring also holds true for the training instructors at CCTC. All training instructors who teach the technical subjects are seafarers, those who have sailed before or who still sail intermittently. The example below highlights these points.

I: And what have classes been like so far?
I12-C10: Class has been a bit stressful but very fun. Because I got inspired by different instructors that they've been already in different situations,

different stories, they shared a lot of stories and for me those stories became my inspiration that oh, what a cool journey, what cool adventures they are sharing…

I: … Stories from his sailing days.

I12-C10: Yes. Because we really need to have a practical approach. We need someone that already did something like what we're going to experience. So, I think it's a very perfect environment for us. Knowing that his story, that it's been successful, only sometimes, but it's been successful, to just have that strong determination … because for example we had a lesson yesterday and he said that there's a seaman who was somehow a bit scary but taught him that you need to have the interest in order to succeed so that's really for me a very inspiring statement.

The example above was taken from an interview extract and shows that, for the cadets, the stories and situations shared by the old-timers create a sense of community and, more importantly, they "already did something like what we are going to experience." As they do not yet have access to the site of their future participation, being at the training center, and especially their interaction with the old-timers, allows the cadets to start imagining (Wenger, 1998) the possibilities of their future identities.

4.1.3 Learning through Making If–Then Connections

During the training at CCTC, cadets make connections of a third, and related, kind, which are if-then connections. As cadets make these connections they learn to draw distinctions between why certain courses of action are correct or incorrect based on the practical consequences of those actions. Making if-then connections is noted in the example below, which shows the use of a photograph for cadets to get an idea about the potential consequences of incorrect actions on board.

This brings the presentation to a photo of a ship that bent in an upside down U shape – this is called hogging. The photo shows the physical representation of what happens if there is no understanding of bending pressure and if the cargo is loaded incorrectly. [CCTC Field Notes 1st Block]

The example above highlights to the cadets, the consequences of incorrect cargo loading on the ship structure. Hence, it helps the cadets connect to the site of practice of the ship and, through making the connection it helps them learn the distinction between the correct and incorrect courses of action. In terms of Tsoukas & Vladimirou's (2001) understanding of distinctions, if-then connections can be conceived as – if these actions are performed, then that is the consequence. Cargo loading is not a task given to cadets; it is usually the job of the chief officer on board, who oversees the cargo loading operations and comes up with the cargo loading plan, which is based on calculations of the effect of the cargo weight on the ship structure. However, in learning about bending stress, the cadets learn the consequentiality of the actions (Feldman & Orlikowski, 2011) on board; that is, if the cargo is not loaded correctly, it might result in damage to the ship.

In showing the cadets a photo of a bent ship, the instructors at CCTC help them make connections between practices at CCTC and their (the cadets') future work practices on board. Furthermore, it allows the cadets to envision the if-then connections through a visual representation of what might happen as a consequence of actions on board. Envisioning helps the cadets draw distinctions in terms of what is or is not acceptable per the international regulations, the flag-state regulations and the company regulations. It is a way of showing, do X instead of Y because the consequences of Y are shown on the screen in front of you.

If-then connections are made by the cadets primarily in simulation sessions, because simulators help the cadets see in real time what the consequences of certain actions are. Simulators help the cadets familiarize themselves with material aspects of the ship, such as the navigation console and other equipment such as the GMDSS and ECDIS which are commonly used on board. Simulations also help the trainers at CCTC and Crewco ensure that the cadets have some degree of understanding of the equipment, as they are aware that cadets on board ship might not always get the chance to participate on the bridge (Chapter 5 will discuss this in-depth discussion). Newcomers, through observing old-timers operate ship simulations can get a sense of which materials are used for what purposes and start understanding the role of the navigational equipment on board as well as the simulator as a learning tool. The field notes below show that before they go on board, cadets are given a chance to observe and participate in certain aspects of simulation training.

We go into the sim room and Capt R explains the equipment and what it does, what it is used for and the different parts - fire panel, GMDSS, GPS, radar. He tells them how to operate the radar. The cadets are all huddled around the radar screen watching Capt R work on it. He shows them how to switch mode from day to night, how to acquire target, how to cancel. Then goes over the overhead console. He shows them the speedometer. The forward and aft speeds, the port and starboard speeds and says that this comes in very handy during docking. He shows them how to use the control panel to maneuver the ship, change the speed and the different functions. For example, what to do in the case of emergency run or stop. He gives them an example where the main engine has a problem or emergency or malfunctions. The system will automatically stop the functions to prevent further damage. However, there is a way to bypass the system. The class then moves to the wheel, where one of the cadets has volunteered to take the wheel. Capt R goes to the main control panel shows them how to

perform a certain function and gives the acting helmsman the heading, 180.
[CCTC Field Notes 1st Block]

Thus, during their first blocks, the cadets use the simulators to observe; they are not encouraged to manipulate the equipment. Hence, they are still treated as peripheral participants at this site of practice; their legitimacy at this stage is being negotiated through demonstrations of skillfulness (Lave & Wenger, 1991: 68). As the simulators are expensive pieces of equipment, their progression with the simulators is gradual. First, they learn about the equipment, the language of helm orders, and the functions and procedures to be performed on board. Then, gradually, they learn certain aspects of manipulating the equipment, working in bridge teams, simulating being officers on watch, among others. Moreover, it allows the cadets to observe the old-timers perform aspects of the practices of navigation (Lave & Wenger, 1991; Gherardi et al, 1998). In this sense, simulator training creates a safe environment for cadets to learn some aspects of the practices of navigation. Furthermore, we see the link between if-then connections and the use of simulators to form connective visions of the consequences of actions on board. The example shows the instructor taking the cadets through the different parts of the navigation console and how to use the equipment in different situations such as changing speed or maneuvering the ship. Here cadets are making if-then connections regarding the use of equipment on board. If speeding up the ship, then use the speedometer and control panel. If making an emergency stop, then use the control panel in this way.

The example above shows how cadets use simulators to make if-then connections through envisioning the correct course of actions for particular situations on board. The simulation training acts as a supplement and buffer for the cadets to use in case they do not get a chance to perform maneuvers in practice, or if they are given the opportunity to perform in practice, then

to enable them to perform competently. If-then connections help newcomers draw distinctions though preparing the cadets for the "what-if" scenarios that they might face as future operational seafarers. "What if something goes wrong?" – is the cadet then able to identify the potential causes of the problem? "What if the equipment stops working" – is the cadet then able to perform the calculations manually. "What if the port authorities question a particular action?" – is the cadet then able to state the correct procedure and explain the actions taken? This emphasis on the "what if" is a reason for both theoretical and practical training at CCTC – "what if the cadets do not get a chance to do these things on board?" The training at CCTC then becomes a way through which the organization (Crewco) seeks to control the learning of the cadets, by providing them with an alternate scheme to what they will experience on board.

Critically, the section above highlights the use of dialogical and material apparatus to envision the connections between sites of practice. The particular practice of envisioning connections using the dialogical and material apparatus is what I term forming *connective visions*. Connective visions are important for the process of transition, because they allow the newcomers to form the connections between the sites. These connections are formed only when the cadets are able to see or envision the concrete representations of shipboard practices which are found in the dialogical and material apparatus at this site of practice.

Prior to going on the ship, the cadets do not have access to forms of participation, discussed in Chapter 2 (section 2.6) such as physical immersion (Ribeiro 2012). Furthermore, forms of participation such as physical contiguity (Ribeiro, 2012) are not possible to the full extent. While cadets have access to simulation training and maybe a ship visit, they do not have access to the forms of participation required to be legitimate peripheral participants in operational seafaring. Making connections is

essential for drawing distinctions because it allows the cadets to understand the consequentiality of their potential actions on board. In traditional apprenticeship setting newcomers learn the correct and incorrect ways of doing through direct observation, through mimesis (Billett, 2014; Chan, 2015), and through physical immersion (Ribeiro, 2012) in the practices. However, at CCTC we see an attempt to draw distinctions about the correct and incorrect ways of doing without the newcomers' physical presence in the setting, through making connections between the sites of practice.

4.2 Phase 2 - Disconnecting and Re-Drawing Distinctions at Sea

During their first and second sea-service contracts, cadets experience work and life on board. Here they start their inbound trajectory (Wenger, 1998) towards becoming full participants in the operational practices of seafaring. They have to transition both physically from shore to sea and also in practice from the training center to the ship. Through experiencing the differences between the shore-based training and the sea-service contract, the cadets start disconnecting from the practices at CCTC in order to participate in the shipboard practices. Consequently, the dominant mode of learning switches from connecting to disconnecting in this phase. When the cadets start disconnecting from the practices learned at CCTC they start to redraw the distinctions that they drew at the training center (Tsoukas & Vladimirou, 2001). Furthermore, at sea, the cadets engage with the "real life" of seafaring, that is, cadets have to learn to work in the shipboard environment rather than the safety of the training center. Consequently, they start to understand the nuances of the practices of seafaring, such as the interpretation of rules (Schatzki, 2005) and the "real life" consequences

of actions, which is not possible to the fullest extent through participation at CCTC alone.

In phase 1 the cadets learn to draw distinctions through making connections between sites of practice. In phase 2, they learn that the existing distinctions are no longer sufficient – they do not resonate with their practical experience. Hence, some of the previously drawn distinctions are redrawn through disconnecting. At the same time, some aspects of the connections made by the newcomers in phase 1 need to hold, so that there is continuity between the sites such that the newcomers can have some background understanding of the practices on board (this is further expanded on in Chapter 5 Section 5.1). However, in this phase the dominant mode of learning changes from connecting to disconnecting, that is, disassociating from the previous site and learning what is different rather than learning what is the same between ship and shore.

Furthermore, through disconnecting and redrawing distinctions cadets start to change their identities from being CCTC trainees to becoming a member of the crew. This is because identity is linked to practice and changes in doings, saying and performances lead to a change in identity (Lave & Wenger, 1991; Wenger, 1998; Handley et al., 2007). This shift in identity is possible only through participation in the practices on board. Hence, this phase becomes a critical point for the process of transition as the following subsections will demonstrate.

4.2.1 Learning Differences in Old-Timer Objectives

It's still dark outside at 0530 when Perry looks out of the porthole in his cabin. From his view between the containers stacked high on the deck, he can see that the sea seems calm. It should make working on the deck today easier. He has been on board for two months and is slowly learning the

routine on board. Initially, he remembers, he didn't know where to go and what to do. Now, slowly, he has gained some confidence. Perry thinks back to his time at the training center; he still has eight months before he goes back. While he has only been on board for two months, it seems like much longer. Perry is still surprised by how different life on board is from what he imagined. He imagined spending a lot of time with the officers on the bridge and found that this was not the case. There are other differences too that Perry notices, for example, there are not as many calculations done on board as he thought from being at the training center. Most calculations are done by the computers, and when they are done manually, the officers are usually able to give him short cuts or more practical methods than what he was taught at the training center. [Vignette 4]

Movement from shore to ship is a big leap for the cadets going to sea for the first time. In addition to finding their sea legs (Mack, 2007), they also need to grapple with the differences in old-timer objectives between the two sites, which leads to findings new ways of participating on board. Lave (2011), in her work, noted that the master's intention has an impact on the learning activities. When cadets move between sites of practice they have to grapple with the differences in the intentions of the masters at each site. The trainers at CCTC were interested in training the cadets to become officers per the company and international regulations. On the ship, however, the shared goals of the community on board are different; for them, the goal is to ensure that the cargo reaches from point A to point B per the ETA with no or minimal damage to lives, ship or cargo. These differing goals result in different shared understanding of practices at each site. For the old-timers at CCTC practices of seafaring must be performed per international and company standards. For the old-timers on the ship, while there is an effort made to comply with international and company regulation to the fullest extent, some aspects, for example, rest hours, might

not be followed. These differences also have an influence on the learning activities on board.

In vignette 4, above, Perry notes these differences in terms of time spent on the bridge with the officers and the differences in calculations. These differences lead the cadets to start disassociating with the practices learned at CCTC. The process of disassociating means that the cadets start disconnecting or unlinking from the theoretical principles and ways of doing learned at CCTC. An example of learning to participate in different ways is highlighted in the following of the procedures. At the training center, the cadets learn per international regulations (STCW), and they learn about other regulations that are supposed to form the basis of the work practices on board. However, once the cadets go to sea, they experience that the training about regulations at CCTC might not always be followed on board. The interview below highlights that while some procedures on board such as the Collision Regulations (COLREGS) were followed per international regulation, hence some previously drawn distinctions hold, others, such as the safety training, do not and, hence, the cadets have to re-draw these distinctions.

I: Are there other points that usually are not followed?
I13-O4: Of course, COLREG is always followed. Safety, training, yeah, usually the training is just on paper. Yeah.
I: How do you mean?
I13-O4: It takes time, you know, it takes time, it takes … And it disturbs the routine. Usually, the training for example fire drill is once a month.
I: Even on board a tanker it is once a month?
I13-O4: Yes, it's once a month, but sometimes they do it twice, but the regulations have stated that it should be once the boat and fire drill should be once a week. But, it disturbs so many …
I: Operations?

I13-O4: No, operation is okay but routine, and people do not like that much. However, cadets like it. [laughs] They want to have training because we want to learn, yeah, we want to know how it's done. However, usually, the officers don't want it anymore, so. Because they need to explain things, they will be asked in a safety meeting, so usually, it's always on paper. That is one of the things that is not usually followed.

The example above shows that officers on the ship were not keen to do the safety drills because it disrupted the routine and they needed to "explain things" in a safety meeting, hence, the drills were a paper exercise. The difference between COLREGS and safety drills and the importance each were given on board shows that not all practices on board have equal importance. The community of seafarers on board has made different distinctions about the correct and incorrect courses of action. The cadets then have to disconnect from the practices at the training center, where the importance of drills on board is always repeated, in order to participate on board. Here, then, cadets learn to redraw distinctions learned at CCTC to move the distinctions in line with the those held by the community on board in terms of prioritization of the practices.

The disconnecting and redrawing of distinctions leads to a change in identity because, as reviewed in Chapter 2, identity is formed through practice (Handley et al., 2007; Gherardi, 2016). A change in practices, such as the change seen in the example above means that there is a shift in identity as the cadets start disconnecting with the practices at the previous site. The differences between ship and CCTC are picked up by the cadets when they move between shore and ship. In the example above we also see that the main objective of the old-timers on board is not actually to train the cadets. For the old-timers on board, the main aim is to meet the ETA set by the charterer and to ensure that the ship and its personnel are in safe working conditions. While they might have undergone similar training

programs as cadets, they have not had the training to become instructors but are, rather, operational seafarers. Cadet interviews exemplified prioritization among old-timers of operational practices over cadet training. One such example is noted below where the officer recalling his cadetship noted that some officers on board did not understand what the cadets had to do. Furthermore, he stated that due to operational pressures such as reaching ten ports in one week, there was not much time for the officers to teach, or to go to the bridge to seek opportunities for participation for the cadet.

I: Can you give me an example of what it would be like when they don't understand what you have to do?
I17-O8: For example, for me, it is okay because they teach me but the other cadets they said that they don't have time to go to the bridge to learn from officers due to the timing, in one week they have around ten ports, so that is why.
I: So, there is no time.
I17-O8: Yes. They are very tired. And the second is some crew or I mean officers they really don't like to teach.
I: Teach.
I17-O8: Yes.

This lack of time due to operational pressures to go to the bridge, and the lack of inclination to teach, then, can lead to a lack of opportunities for cadets for participation. At the training center, because of the objective of the site of practice (training), the cadets spend a significant amount of time participating in practices that help legitimize them to the community at CCTC. On board the ship, the cadets do participate in the practices; however, they do not participate in all the practices that put them on the inbound trajectory to become officers. This lack of participation to practices of the inbound trajectory has the potential to influence their

process of transition. For example, the cadets will have access to the practices of the deck ratings, but they do not have access to the practices of navigation on the bridge.

The lack of time on the bridge has implications for the process of transition because, without access to the bridge, newcomers are not able to physically immerse (Ribeiro, 2012) themselves into the spatial territory (Gherardi, 2006; Yanow, 2006) that forms the hub for the practices of navigation. Hence, an insight that can be drawn for learning as LPP is that it is not simply participation in practices that is important for transition, but also participation in specific practices that put newcomers on an inbound trajectory (Wenger, 1998). For example, practices on the deck, performed by the crew, allow newcomers to get a sense of aspects such as cargo operations, shipboard maintenance, and deck work. However, through participation in these practices, newcomers cannot learn to be navigators, which is an important aspect of becoming an officer in charge of navigation. Hence, access to the practices of navigation is required in order to be on an inbound trajectory towards full participation and to develop their identities as navigational officers.

The following interview extract highlights the prioritization of operational practices; here the cadet was not given opportunities to ask questions because the officers were too tired or busy to answer questions. Furthermore, the cadet's reaction to one officer's lack of time to answer questions was to stop going to him to ask questions. While the cadet might have sought opportunities from other members on board, he was deterred from seeking opportunities for participation with the mentioned officer.

I: And how did you figure out when not to ask questions?
I9-C7: If there are many vessels, too busy. If they have many documents to do like for the preparation of the next port. So, I respect their decision.

I: So then would you ask the question then and then they would say that okay, not now, I am busy?

I9-C7: Yes, Ma'am. Because once there was an incident where I asked the officer about this, they said I am busy, I am busy later I will tell you. So, I did not go again to him.

The example above shows that the different goals of the old-timers on the ship meant that cadets had to redraw distinctions also in terms of their place within the COP. At the training center, the cadets are granted participation but on board the ship, they are not. The lack of opportunities for participation on board meant cadets needed to find different ways to seek opportunities for participation (this is the focus of the next chapter, hence not expanded in detail here).

An aspect of participating in new ways involves learning to work in a manner that is accepted by the crew on board. For example, in the interview extract below, the cadet was laughed at when he told the crew they had to do calculations in CCTC before mixing the paint.

I32-C12: This sounds funny they always laugh at me because I always say in CCTC when we used to paint we had some calculations we need to get the paint thinner and the temperature but here we just mix.

This difference in terms of what is learned at CCTC (refer to third example in section 4.1.2 for comparison) and what is practiced on board means that cadets need to learn new ways of participating in order to legitimize themselves to the community on board. Consequently, cadets have to disconnect with the paint-mixing principles learned at CCTC to work in a manner that legitimizes them in a new setting. Accordingly, we see the cadets also start to re-draw distinctions about the correct and incorrect ways of doing, going from calculating before painting to simply mixing the paint.

The process of re-drawing distinctions and disconnecting from the previous practice is not an easy one; it causes a dilemma for the cadet who now experience practices that go against distinctions drawn at the training center for 'good' reasons (given they had also learned 'why'). In the example above the shift in identity is, again, caused because in order to be considered a member of the crew the cadet needs to learn to act according to their perception of correct and incorrect practices (Tsoukas, 2009).

Through disconnecting from previous principles and redrawing distinctions the cadet starts to align his actions to those of members on board, he also starts to align his identity then. In the example above this alignment is seen through the use to the word "we" to associate both with the training center and with the crew on board. In the example below the officer is looking back on his time as a cadet. There is, per international safety regulations and the safety management system on board, a correct procedure to be performed before entering enclosed spaces on board. However, in actual situations (as in this case) these procedures might, again, not be followed. In this situation, because of the cadet's prior training, he was able to realize that the procedure being followed was 'incorrect'. However, from the perspective of the established community on board, the actions being taken were legitimate. The cadet then has to reconcile this difference between what was learned at CCTC and what is seen as an "improper procedure" being practiced on board.

I: ... So how was that different from what you were trained to do?
I18-O9: Because in training first you must have this checklist, something like that, then must be signed by the chief officer, master and must be checked first before entering.
I: This was not done?

I18-O9: Yeah. But on the ship, you must go for it then afterward you will get the checklist. Because sometimes the chief officer they will just say later, later.

I: And the first time that you experienced a situation where what you were doing was different from what you knew you should do, how did you feel?

I18-O9: I feel like this is like our training is, not [...] I feel like something like the training is not in, it's not in the proper way there ...

I: ... Do you feel your training is not in the proper way or their training?

I18-O9: I thought their training because it did not follow the proper procedure.

The differences between practices learned at CCTC and actual practices experienced on board can create tensions between the newcomers and the old-timers on board the ship. From the example above, one can perceive that once the cadet noted the difference between the procedures learned at CCTC and the actions taken on board, he then has to exercise judgement (Tsoukas & Vladimirou, 2001) to decide the course of future actions. In the example above, the cadet demonstrates this judgement when he states that it was the training of the practitioners on board that was not proper "because it did not follow the proper procedure." However, later in the interview when asked if he had to go into the enclosed space more than once without the correct procedure he said "yes". Furthermore, it shows the awareness of the location within the domain of action (Touskas & Valdimirou, 2001); that is, the cadet is aware of his/her peripheral status in the COP (Lave & Wenger, 1991) and therefore has to disconnect from previously learned practices in order to participate at this site.

4.2.2 Learning New Ways of Demonstrating Skillfulness

Another aspect of experiencing seafaring in practice is that cadets need disconnect with previously learned ways of showing skillfulness (Hislop,

2008), in order to redraw distinctions about which courses of actions are considered skillful on board. Skillfulness per CCTC (understanding the theoretical principles of navigation) does not always translate (Carlile, 2002; 2004) to the other site of practice. On board the ship, due to the different goals of the old-timers, the different understandings of learning, and the different practical realities of the setting, different demonstrations of skillfulness are sought. The field note extract below shows that sometimes when cadets tried to use learnings from CCTC as a demonstration of skillfulness on board, it would not be perceived well by the officers. Unlike the example in the previous section (4.2.1), where the cadet was laughed at for the way in which he had learned paint calculations, using the training at CCTC also has the potential for negative consequences in terms of participation opportunities.

So, Capt M gave examples where the cadets would come back and say that if they told the masters what they had learned and it was different from what the master was doing, then the master would get angry - are you telling me how to do a correct voyage plan? Sometimes the masters themselves might not know the correct explanations, or calculations, making it difficult for them to impart this information to the cadets. [CCTC Field Notes]

Here, it can be noted that the skillfulness that might be accepted at the training center, for example being able to do a correct voyage plan, was not accepted by the old-timers on board. The "are you telling me how to do a correct voyage plan?" implies that the cadet's use of the training at CCTC was perceived as a threat by the old-timer. Accordingly, the cadets start disconnecting from the previous training because they realize that the previous training is not always perceived in a positive light. This meant that cadets needed to learn to exercise judgement about when using their training at CCTC might have negative consequences in terms of

participation and when using their training at CCTC might have positive consequences in terms of participation. For example, practical skills learned at CCTC such as splicing the rope, or rigging the pilot ladder, were used by cadets to demonstrate skillfulness to ratings on board, which led to further opportunities for participation on board.

For the old-timers on board, knowing how (Orlikowski, 2002), rather than why, became the way through which newcomers could demonstrate skillfulness. The example below shows that for the officers on board, the learning of the cadet involved equipping them with the right tools and training solutions, which included completing their daily record books, task books, and following the ISM (International Safety Management).

I15-O6: Yes, I was a training officer in charge. I saw to it that what I had before when I was a cadet was also given to the cadets, the right tools, the right training solutions for them.
I: And what do you think are the necessary or the correct tools to give to the cadets when they come on board?
I15-O6: […] They should follow the training modules, they should follow the – what do you call this – they have a daily training book, they have to see that…
I: Everything is completed.
I15-O6: Everything is completed, and how you call it, the ISM is followed and the task books. They should follow this and complete it by heart. Not just because […]
I: […] Not just to tick the box?
I15-O6: Tick mark, no.
I: And how would you assess what they were doing?
I15-O6: So, I saw to it before I test their competence for these tasks, they had to sit with me, yeah
I: … Moreover, then you would question them about it?

I15-O6: I would question them about it. Same when I became a master. So, this is pretty important because some cadets just to make this, you know, just to complete this task they simply tick, tick, tick.

The extract above shows that for the officers on board, completing the daily training record book or the task book was important. The key element in completing the record books (which have a series of tasks that the cadets need to complete) was to ensure that the cadets had a good understanding of the tasks at hand. Hence, the cadets start to disconnect with certain aspects of the training at CCTC and start re-drawing distinctions about courses of actions which help them demonstrate the know-how on board. Another aspect of learning from the perspective of the certain old-timers on board was to provide opportunities for participation. For example, the captain would provide newcomers with opportunities for participating in additional responsibilities.

I: Would you also give them additional responsibilities?
I15-O6: Yes, yes, for sure. In fact, I always try to see to it that they do the bridge watch, together with the second mate. The second mate can always sit together with the cadet and because it was very, very effective during that time. Also, they have to do it by themselves as well to make sure they are in line with the training program.

For the old-timers on board, learning involves providing opportunities for participation and ensuring they understood the tasks they were doings. Skillfulness for old-timers on board was the cadet's ability to actually perform the task at hand *without* questioning too much why things needed to be done in particular ways. Consequently, the cadets start disconnecting from some of the theory learned at CCTC in order to practice the more task-based competence required on board. For example, the interview extract below demonstrates that the captain trusted the cadet and did not

need to worry about him because he (the captain) knew that the cadet could perform the task.

I32-C12: A large part of the learning, like when the Captain…. He said that he did not have to worry about me if he gives me a job he knows that I can do it and he seems to really like me. Also, a big part of giving somebody this kind of responsibility is trust.

Here we see that the cadet starts to understand what is required of him concerning additional responsibility on board. It is not, per the training at CCTC, the ability to understand the theoretical principles of navigation, but being able to use to principles in action such that the cadet is able to perform competently (Gherardi & Nicolini, 2002). The trust exhibited in the above example and the demand for skillfulness (in terms of the ability to perform the task without supervision) can be linked back to the goal of the old-timers on board, that is, catering to operational pressures. Skillfulness on board, then, is that the cadet can perform the task without supervision, freeing the old-timers on board to focus on the primary aim of the operation. This is seen through the statement, "he said he did not have to worry about me."

4.2.3 Learning New Ways of Doing

Don has slowly started to notice differences in what he was taught at CCTC and the kind of work he does on board. So far, he has spent a lot of his time cleaning the ship and working with the crew on the deck, doing the day-work. It's a good way of familiarizing himself with the ship and learning how to keep it clean and in shape. He also enjoys working with the crew, as they share the same nationality. There are parts of working on deck, which are different from learning them at the training center. Don remembers practicing the mooring operation at the training center, but to

do it in practice was a scary experience the first time. The fear of causing an accident or getting injured was too much, and his mind went blank the first time he tried to remember the steps he had learned. [Vignette 4]

The third aspect of disconnecting and re-drawing distinctions occurs when cadets learn new ways of doing on board. This is different from the first section, where cadets learn different ways of participating because this focuses on the differences in ways of doing without the safety net of the training center. When they go on board, as Don experiences in the vignette above, cadets no longer have the safety net of the training center. While their safety and inexperience are considered when they are given work tasks, they do have to participate in certain maneuvers, such as the mooring operation which can cause accidents if done incorrectly. The cadet would have some experience in performing these tasks at the training center, but doing them on the ship, with real fear for their safety, causes nervousness which can affect their performance, (see Chapter 5, section 5.2.3, for further details on the coping with fear in practice). Furthermore, experiencing practices on board means that the cadets learn to re-draw distinctions about the consequentiality of actions on board. This is noted in the example below, where the cadet notes that at the training center he was lax about following the proper procedures but he realized the importance of those safety guidelines when he performed the operation on board.

I: And, did you make mistakes initially or did you … How did you learn what to do or how did you figure out what to do when you were on board?
I8-C6: Exactly just like you said. I did make mistakes and actually a lot of them. Because, most of my theoretical learnings were just partly that, because I thought it was like this or like that in my mind but then it's different sometimes in the real world.
I: Can you give me an example?

I8-C6: For example, in the mooring operations: So, there happens to be a certain – how do I say this – sets of authority that you should follow or sets of safety guidelines that you should follow always. I somehow disregarded some of those safety rules in training when I was not yet, I was not in the real world.

The example above demonstrates both the disconnecting from the previous site as well as the re-drawing of distinctions. It shows the disconnecting from the previously learned ways of doing at CCTC in terms of the differences in ways of doing at CCTC and experiencing them in the "real world" and the re-drawing of distinctions as to the consequences of not following the safety guidelines.

Physical immersion in practice (Ribeiro, 2012) where the primary activity of seafaring happens can also lead to re-drawing the distinctions learned at CCTC in terms of what to do in a certain situation. In simulation training cadets are told to follow procedures per international protocol; however, in practice, the officers on board exercise situational judgement in terms of what makes sense to do in the current situation. Through observing officers exercising situational judgement (Tsoukas & Vladimirou, 2001), cadets also learn the process of exercising situational judgement themselves - a form of vicarious learning, in other words.

In phase 1 cadets learned the rationale behind the rules of performing practices on board through learning the why-how connections. At that stage, they did not know how to interpret the rules (Schatzki, 2005) for the specific situation. It is this interpretation of rules that is done through exercising situational judgement. Consequently, they are disconnecting from the practices at CCTC and making new connections regarding the interpretation of rules for individual situations. The interview extract below exemplifies this. During the interview, the officer was asked if, as a cadet,

he had encountered a difference between what was taught and what was experienced. He gives the example of the procedure for restricted visibility. During training, the 'correct' practice learned was that a ship should provide a sound signal when entering an area of restricted visibility. However, on board, the officers make a judgement call whether to use the audio signal and might not use it if they do not think it is required, as is disturbs the sleeping crew on board.

I: And did you experience a situation where that was different from what you were expecting or what you had been trained to do so far?

I17-O8: Yes, one time when I was together with the second officer, and we were doing restricted visibility. We have been trained here that the vessel before it enters in restricted visibility should use the sound signal. But in the reality, I learned that if you think that it's not necessary don't do it because especially at night because all of them will be ...

I: ... Sleeping.

I17-O8: Yes. Moreover, then if you will make a sound it might be there. So that is a little bit different from the training we have here, yes.

The example above shows the difference between what was learned at CCTC and what is experienced on board. At the training center, the cadet learned to draw distinctions in terms of 'correct' and 'incorrect' practices in terms of sound signals. That is, if in an area of restricted visibility, use a sound signal (correct practice) as opposed to not using it (incorrect practices). However, the cadet might not have used a sound signal in practice at CCTC, or if sound signals are used during simulation training they are lower in volume and, usually, everyone within the vicinity of the sound signal is awake. Consequently, these distinctions are redrawn when the cadet moves on board and learns that sound signals might not be utilized in all situations of restricted visibility. For the cadet, these exercises in judgement only occur when she or he experiences them in

practice. Exercising situational judgement can also be linked to the cadets' shifting identity as a prospective officer because the cadet is starting to understand what it means to be an officer in charge of a navigation watch. As he sees the officers perform situational judgement, and starts to learn to do so himself, he starts to work towards his identity as a prospective officer.

Another aspect of learning different ways of doing is related to the calculations the cadets learn at the training center. On board, the ship, the rationale behind calculations remains the same; however, the ways of doing changes from learning the scientific principles to learning to do in a more practical way. The example below highlights the cadets' experience in learning to do ETA calculations on board and at the training center. One cadet notes that the solution was "much more enlightening and shorter." This sentiment was echoed by other interviewees who found that the calculations on board seemed "easier" or "not as difficult" in comparison with what they were taught at the training center.

I: So, what would be the difference between calculations of ETA the way that you learned on board versus the way that you learned here?
I3-C1: Because you understand in the training center that you need to be specific, specific what is this number, what is that and that, you don't come up directly to the solution. But on board, on board a ship you can just make the solution more easily and shorter and the practical way. And then knowledge from the captain was being imparted to make the solution much more enlightening and shorter. And practical skills really like steering the ship; you cannot learn merely in the training center, you must do it yourself.

The example above shows the tensions that arise when distinctions about courses of action learned at CCTC (doing ETA calculations in a particular

format) do not coincide with the actual practices on board. Furthermore, for some of the cadets, certain aspects of the practices, like steering the ship, can only be learned through participation at the site where these tasks are performed. The difference in the ETA calculations between CCTC and the ship demonstrates the difference between ways of doing at the two sites of practice.

Not everything 'goes' in practice (Nicolini & Monteiro, 2017) and, in order to participate in the practices on board, cadets need to learn these new ways of doing. For example, if cadets performed the calculations per the training center, they might take longer which, in turn, might lead to a perception of less skill, or the officers might get annoyed that they are not doing things the way they are taught to on board. In order to participate, cadets need to learn to decide the correct course of action for the situation on board. Practice theory emphasizes the importance of knowing how, here the different ways of knowing how or different learning mechanisms (Lave, 1996) to perform the same action are seen. This is important for the process of transition because, through redrawing distinctions, cadets are able to start participating competently as per the community on board which, in turn, instigates a change in identity from being a CCTC trainee to a member of the crew.

In all, this section has highlighted aspects of re-drawing distinctions when the cadets move from the CCTC to the ship. This redrawing of distinctions comes when cadets experience new ways of doing or doing in practice at a different site which might not always coincide with the theory and practices learned at the training center. Hence, through movement between the sites of practice cadets experience tensions when there are differences between what was learned at the training center and what is being practiced on board. These tensions, in terms of experiencing different ways of doing and needing to show a different form of skillfulness, become something that the

cadets need to reconcile in order to participate in the practices on board. They reconcile these differences, as the sections above have shown, through disconnecting from the practices at the previous site. Through disconnecting with the practices at the previous site, and re-drawing distinctions, the cadets are starting to shift their identities from being trainees at the training center to becoming members of the crew on board. It is not a smooth continuous transition through gradual accumulation of experiences that comes from movement between sites. Rather, the cadets, in a sense, need to set aside certain aspects of what they learned previously at CCTC and redraw those aspects, as per the standards required by the community on board, in order to participate as a competent practitioner within that community.

4.3 Phase 3 - Reflecting after Returning from Sea

The movement back from sea to shore is the third phase of the movement between sites of practice. This takes place between the two sea-service contracts and after the second sea-service contract. The cadets, at this point, have participated both in the practices at CCTC where distinctions were initially drawn and connections were made for them, and the practices on board the ship, where they learned to re-draw the previously learned distinctions through learning new ways of doing and through experiencing doing in practice. Having participated in both sites, when the cadets come back to CCTC after their sea-service contracts, they start to reflect (Schön, 1983, Jordan et al, 2009) on the connections and disconnections between sites of practice. During the third phase CCTC as a site of practice then becomes an important space for reflection as the cadets start to make new connections between the sites of practice and start perceiving the practical

training in a different way. Reflection then marks another shift in the process of transition as the dominant mode of learning during this phase switches from disconnecting to reflecting. Reflecting is only possible because of the three phases of transition – phase one and two where the cadets learn through connecting and disconnecting between sites of practice and phase three which gives them a platform for reflection. Reflection is critical for the process of transition because it allows newcomers a chance to also reflect on the drawing and redrawing of distinctions which allow for further refinement of these distinctions (Tsoukas & Vladimirou, 2001; Seirafi, 2013). The further refinement of distinctions allows newcomers to gain a better understanding of the practices of seafaring that is required for them to know how as fuller participants.

Having experienced life at sea the cadets have realized that there are new or other ways of doing than what is being learned at the training center. As such, when the cadets come back from their sea-service, they start to reflect on the similarities and differences between their experiences at both sites. An aspect of reflecting is that they start perceiving the usefulness (or not) of the academic principles taught at CCTC by comparing their learnings at CCTC with their experiences on board. The example below shows the transition from the instructors making connections and drawing distinctions for the cadets, to the cadets starting to make the connections themselves. The interviewee notes that there is fuller comprehension of theory after coming back from sea. Having had sea-service experience, the cadet notes "everything is related to what I have experienced." The cadet can reflect on what was learned at CCTC and what was experienced on board. Before going to the ship, the cadets do not have a sense of what is important to know and what is not. They have to take the old-timers' (CCTC old-timers) word that what is being learned at CCTC is useful to know on board, but they able to experience the nuances of the practices of seafaring.

In this third phase, the cadets are learning technical subjects that focus on the practices of navigation, cargo handling, and management, subjects closely related to the tasks performed by officers on board. Having been on board, the cadets are able to reflect on the connections they made in the first phase about what they have to do when they become officers and what they have seen the officers do on board in the second phase. For example, when the cadet compares it to his understanding before going to sea, he states, he would "just say yes" to what they were saying because there was no frame for comparison.

I: And so, have you noticed a change in the way that you learn now that you have been to sea?

I5-C3: Yes. I can understand most of the things that they are teaching here. Everything is related to what I have experienced, and everything is absorbed, and I can fully understand what they are talking now.

I: What was it like before? Can you give me a comparison of what it was like before and after you have been to sea?

I5-C3: Well, before I get on board everything that they tell me I will just say yes, yeah, because I do not know anything about what they are talking about. I do not know the experience, the practice and everything I don't know. However, like now that I have experienced what they are talking about if they are talking something that is not, I know that is different from what I have experienced I can relate. I can tell them; it is not something that I have learned, it is different from what we have learned so we can compare everything, the knowledge before and the knowledge from now, that kind of conversation.

The example above shows the transition that takes place in learning through movement between sites of practice. The cadet now has a frame of reference with which to compare the information given at the training center. This is noted when he states that if the instructors tell him things

that are different from his experience, he can make that comparison and tell them that there is a difference. The cadet can engage in a dialogue (Tsoukas, 2009) with the old-timers about the experiences that he has had on board, which is only possible through the movement between sites of practice. The engagement in dialogue also marks the shift in identity from being a CCTC trainee to becoming a prospective officer because during the first phase as CCTC trainees the cadets were passive listeners in the classroom agreeing with everything the instructors said. In the third phase, because of their experiences at sea they start to question the differences between what they are learning and what they have experienced. This questioning and the subsequent engagement in dialogue shows a shift in identity. Furthermore, the response of the old-timers to explain why there are differences between the practices at both sites also shows that they acknowledge the change in identity of the newcomers as legitimate peripheral participants of the practices of seafaring.

Additionally, during the third phase, the cadets start to refine previously drawn and redrawn distinctions. The drawing and re-drawing of distinctions that takes place during the first two phases of movement come together in the third phase, the cadets themselves are able to reflect on the similarities and differences and, in doing so, they are able to refine their distinctions further. This is described in the example below where the cadet notes the shift from imagining scenarios in the first phase to experiencing 'the real thing' in the second phase. Having both these experiences leads to the cadet having a better understanding and better imagined scenarios in the third phase.

I: And do you notice a difference in how you learn and what you learn now that you have come back from the sea?
I8-C6: Yes, definitely because especially when we tackle our lessons and the training right now I have a better understanding of what our instructors

are telling. Before I only had mere imaginations or like ideas based on what I see, what I hear or things I read in books, only those things but then after getting exposed on board to the real thing now I can appreciate more the things that we do and then I can imagine better the scenarios that take place and the benefits of the things that they teach us.

On board the ships, the cadets did not have a chance to engage in dialogues with the old-timers as to why there were differences in ways of doing, or why certain procedures were not followed per regulations, which is perhaps why disconnecting became a dominant mode of learning. During the third phase, the findings show that the cadets are now able to engage in a reflective dialogue with the old-timers. This is noted in the example below, where the cadet notes that his experience of sailing makes it easy to follow the points being made by the instructors and he could ask questions.

I10 C8: Yes, it's easy because I already have this knowledge and if I asked them they will explain to me and I can relate more to what they're explaining to me.

When the cadets reflect on the differences between sites of practice, they are able to engage in a dialogical process of developing new insights into practice along with the old-timers at CCTC. This process of reflecting is done through the dialogical process of developing new insights. This, in turn, allows the cadets to refine the previous distinctions.

The field notes, taken during a class on Passage Planning Techniques with Nautical Publications shows the cadets discussing the crossing of the international date-line and how retardation or advancement of time is calculated. One of the cadets, speaking from his sea-service experience notes a rule where going from the Eastern to Western Hemisphere would involve going back 24 hours. While the instructor agrees with him, another

cadet disagrees and notes that, during his sea-service contract, he experienced something different. This difference in experience then leads to a discussion on why the cadets might experience a difference in what is being taught during the class and what happens on board.

Capt O asks the class if it matters if they are moving eastwards to westwards if they are calculating tidal predictions. One of the cadets says no because they already have the time of arrival at port given to them. They are concerned with the time when they are performing the crossing and not in comparison to where they are now so they need not bother with that. When they do the eta calculation, they do need to convert all the times to UTC and then reconvert the final time to actual time at port. They calculate the eta from Prince Rupert - 8 hours to Hong Kong + 8 hours. He teaches them two ways of doing it. They don't seem to understand the second method. One of the cadets asks him a question which they start discussing. The question is if you are going from +12 hours to UTC to -10 hours would you retard the time or advance the time. Coming from Eastern hemisphere to the Western Hemisphere crossing the date line what would you do?

One of the cadets says that he knows that a special rule applies to the international date-line. Capt O asks him what that is. The cadet says that they would have to go back 24 hours, so the date matters and not the time. Capt O agrees with him. The cadet narrates a story narrated to him by an officer where they crossed the international date-line on December 31st, so they got to celebrate New Year's Eve twice. Another cadet disagrees and says, but they don't use this principle to calculate in their computations on his ship. Capt O asks them what he told them. They are doing objective calculations not the progressive retarding or advancing of time as they would do on the ship. Otherwise, from Prince Rupert to Hong Kong, they would retard the time till they reached the international date-line and then advance 24 hours. One of the cadets asks why they don't calculate it as

they would on the ship. Capt O says that on the ship they would change the time progressively. So, the captain would ask that the time is changed every 2-3 days. For Prince Rupert to Hong Kong voyage, they need to advance 16 hours in 11 days. Capt O asks them how they would respond progressively to this and still manage to get sleep. [CCTC Field Notes, Third Block]

As can be seen from the example above, the cadets are able to discuss and debate the differences of their individual sea-service experience and the way in which the calculations are done at CCTC. The cadets are working out the tides in Hong Kong. First, they have to find out the time of arrival and date of arrival Hong Kong as tidal height is a function of date and time. On board the ship, navigators use a publication called the 'Tide Tables', and one has to be very careful with the time calculation. As the ship is going from Prince Rupert to Hong Kong, on the way, she will cross the international date-line. This is confusing for the cadets, and they are trying to remember how it was being done on their ships. Some of them only remember progressive advance or retardation of clocks on their ship but not that the full-time difference needs to be calculated at once to get the ETA. They do not know how the navigator calculates the ETA when crossing the date-line is involved. This reemphasizes the point raised in section 4.2.1 that access to certain practices is an important aspect of the process of transition. The lack of know-how comes because the newcomers did not have access to physical immersion (Ribeiro, 2012) the practices of navigation where such calculations take place. Returning to CCTC allows them to understand these aspects of the practices of navigation that they did not get a chance to observe on board.

The example highlights another key point; the sharing of the cadets' experiences with each other. On board the ships at Crewco, there are only one or two cadets on board, usually one deck cadet and one engineering cadet. Furthermore, due to differences in route, the number of port stops,

weather conditions and, most importantly, the community on board, means that sea-service experiences might be different for cadets on different ships. Therefore, when they return from sea-service, the cadets not only have access to the old-timer resources but to other cadets who also become important learning resources. Through sharing the differences in their experiences on board, cadets decipher that what they might experience on one ship might be different from what another cadet has experienced on their ship. These differences in shipboard experiences allow cadets to realize different ways of doing, not just between CCTC and the ship, but also between different ships, which helps further develop their understanding of the practices of seafaring. Furthermore, it is known that practitioners learn through narratives or war-stories (Orr, 1996). The sharing of different shipboard experiences is a form of the telling of war-stories. War stories or sharing narrative can be perceived as a form of reflection as well. Through telling stories, newcomers highlight what they found to be interesting or confusing, further developing an understanding of practice. As such, their participation at CCTC in the third phase allows them to reflect-in-action and reflect-on-action (Schön, 1983). They are reflecting-in-action on the differences in calculation that they are learning at CCTC now through comparing them with the ship and they are reflecting-on-action through their dialogue with each other about differences in shipboard experiences.

Overall this section has shown that in the third phase the dominant mode of learning changes from disconnecting to reflecting. Reflecting is possible only through breakdowns or changes in use (Gherardi, 2000) of the distinctions in the first two phases. This is because the cadets need to have drawn the distinctions and then redrawn those distinctions in order for them to reflect of the similarities and differences in practices at both sites. Consequently, reflecting is made possible through the disjuncture exposed through movement between sites of practice. When the cadets come back to

the training center, through sharing their experiences at sea with both the old-timers and with other cadets, they are able to reflect on their previous experiences. Additionally, the section shows that reflecting leads to the refining of distinctions because through engaging in dialogue, the cadets are able to understand the differences and similarities in ways of doing at both sites which, in turn, allows them to refine the previously drawn and re-drawn distinctions.

4.4 Conclusion

In sum, this chapter aimed to trace the movement between two sites of practice and how cadets learn through the movement in order to transition towards fuller participation. The chapter showed learning during three phases of the movement. During the first phase, it was found that prior to their experience on board a ship the cadets had the connections between the sites of practice made for them and the distinctions drawn for them. During the second phase, these distinctions were re-drawn when they learned new ways of doing and confronted the differences between physical immersion through participation on board. During the third phase, the cadets learned to reflect on the connections and disconnections between the sites of practice for themselves. The key points of each of the sections are summarized in the table 4-1 below.

Table 4-1 Learning Through Movement between Sites of Practice

Overall Themes	Main Conclusion	Sub-Themes	Important Points of Sub-Theme
Phase 1 – Learning Connections before going to Sea	Prior to going to sea, the dominant mode of learning for the cadets is making connections through the forming connective visions	Learning Theoretical Principles of Seafaring and Knowing Why	Knowing why becomes an important aspect of demonstrating skilfulness at CCTC – forming why and how connections Why- how connections help cadets understand the rationale behind the rules that govern the practices of seafaring Grounding in academic principles helps legitimize certain courses of actions for the new comers
		Learning Past, Present, Future Aspects of Practices	Connections are made between their work as cadets and the work they will do as officers to highlight the usefulness of the training, past-present-future connections These connections are made using the old-timer stories and learning future work practices. Past-Present- Future Connections help cadets start to understand the inbound trajectory they are on
		Learning Through Making If-Then Connections	Simulation helps make if-then connections Training at CCTC tries to prepare the cadets for the "what if" scenarios on board. If – then connections help the cadets see the consequentiality of actions on board
Phase 2 – Disconnecting and Re-Drawing Distinctions at Sea	At sea, due to differences in practice, cadets need to disconnect with certain ways of doing which leads to redrawing and refining of distinctions	Learning Differences in Old-Timer Objectives	The main objective of the old timers is to comply with the operational demands on the ship. This leads to a lack of inclination to provide learning opportunities for the cadets Cadets need to disconnect from the previous practices at CCTC to learn new ways of participating to be potential competent members of the community on board
		Learning New Ways to Demonstrate Skilfulness	Disconnecting from the forms of skilfulness required at CCTC through understanding theoretical principles

			Cadets start to use principles in action to demonstrate task-based competence
		Learning New Ways of Doing	Cadets start disconnecting from the previous courses of actions learned at CCTC as they start to exercise situational judgement
			Cadets re-draw distinctions in terms of the consequentiality of practices on board
			Cadets start to transition in terms of their identities from trainees to members of the crew
Phase 3 – Reflecting after Returning from Sea	Cadets start to reflect on the connections and disconnections between sites of practice to better understand practice, to know how to go on as fuller participants		Cadets can relate the learning at CCTC to the practices on board.
			Cadets can engage in the dialogical process of developing new insights in practice
			Cadet get the chance to discuss and debate the differences and similarities between the sites both with the instructors and with other cadets which provide further understanding of practice
			Cadets reflect both in and on action simultaneously which in turn allows them to refine their previously drawn distinctions

Looking at how cadets learn through the movement between the sites of practice starts to reveal disjuncture in knowing (why and how), the disjuncture in the processes of legitimation, and the disjuncture in ways of doing that the cadets need to traverse in order to transition as fuller participants. The movement between sites of practice shows how newcomers navigate the process of transition through switching between connecting, disconnecting and reflecting as they participate in two related but different sites of practice. Hence, the analysis in this chapter develops that the process of transition is episodic. The practical accomplishment of LPP requires navigating through switching between dominant modes of learning to draw, redraw, and refine distinctions (Tsoukas & Vladimirou, 2001; Seirafi, 2013), which leads to understanding practice or knowing

how to go on (Nicolini & Monteiro, 2017). Having zoomed in and out on the movement between sites of practice, the next chapter zooms in on the site of practice on board a ship to understand how cadets as newcomers negotiate access to participation in a site where old-timers are not inclined to focus on their training.

5 Negotiating Access to Participation through Proactivity

The previous analytical chapter zoomed out to trace the links between the two sites of practice through which the cadets as newcomers in the practices of seafaring transition towards fuller participation. This chapter seeks to zoom into the practices at one site, the ship, in order to focus on how cadets negotiate access to participation in order to transition toward fuller participation. Specifically, this chapter concentrates on the sea-service contracts and how cadets negotiate access to participation in practices on board. Gherardi and Nicolini (2002: 421) state, 'Learning in practice involves the ability of behaving as a competent member in a discursive community.' This chapter will examine how newcomers in a practice (in this case the practice of becoming a seafarer) negotiate access to participation in the practice.

Lave (1991: 74) argues that 'no rational organization can exempt the production of old-timers from its agenda of crucial structural arrangements, and giving learners access to full participation is a condition for meeting this goal.' In the case of the practices of seafaring, my study finds that access to participation in certain practices on board a ship was not 'given' and therefore needed to be negotiated. While the cadets undergo two sea-service contracts most cadets during their interviews noted that they did not perceive much difference between the two training contracts. Nevertheless, because the interest is in exploring how cadets negotiate access to participation, the findings will zoom in on the practices that the cadets engage in during their first sea-service contract. Through the data,

proactivity emerged as a way in which newcomers were able to negotiate access to participation. Proactivity, here, refers to actions taken prior to prompts from others. In this sense, the chapter hopes to build a practice-oriented concept of proactivity.

This chapter is structured as follows: First, it shows that cadets need to develop understanding of practices on board in order to anticipate when to engage in proactivity (5.1). Developing understanding is done through knowing whom to approach and when, seeking technical information and having an awareness of potential clashes between practices. Second, the chapter moves to proactivity itself. Proactivity on board was demonstrated in different ways which allowed newcomers to negotiate access to participation. Hence, the chapter looks at the ways in which body work is performed through adapting to physical work, dealing with tiredness and coping with fear (5.2). Third, the chapter focuses on another aspect of proactivity by focusing on spatiotemporal work which involves proactively participating in certain spatial territories, and seeking opportunities to participate at specific times (5.3).

5.1 Developing Understanding of

Practices on Board

To engage in proactivity, cadets need to anticipate when to proactively perform. This requires, understanding practices, to anticipate the potential for proactivity. Consequently, understanding practices and anticipating the potential for proactivity becomes a prerequisite to proactivity in the form of body work and spatiotemporal work. On board the ship, the cadets need to understand the practices of seafaring to which they are trying to negotiate access. This understanding is shown through knowing whom to approach, where and when, seeking technical information and learning through errors.

Proactivity is situated, and the nuances of the practices need to be learned for proactivity to be used for access negotiation. Learners within a professional community develop an awareness, not only of their work and what they are supposed to do, but also what the other members around them are doing, and what they should be doing (Nicolini & Monteiro, 2017). Becoming sensitive to practices, or having 'situational awareness' allows the learner to glean this sense of right and wrong together with an understanding of practices as regimes of collective activities (Nicolini & Monteiro, 2017). For example, asking the chief officer for opportunities to participate, after the chief officer has finished the cargo operations will probably result in a negative reaction as the chief officer would probably be tired and overworked.

5.1.1 Knowing Whom to Approach, Where and When

John goes down to deck level to find the chief officer in the cargo operations room to get his job order for the day. The chief is busy going over the cargo plans as they will be reaching Gijon tomorrow morning. The chief tells him that the planner sent the cargo plans at the last minute and now he has to scramble to put everything together before they reach port. He tells John that last evening he and the boatswain had planned the maintenance schedule and John should ask the boatswain for his work order. John changes into his overalls, work boots and helmet before going to ask the boatswain for his work order. He had heard the boatswain and the OS discussing that the stern deck needed to be painted and is almost sure that is what he will have to work on that today. He finds the boatswain in the store room taking inventory. The boatswain tells him to go aft and help the OS do the de-rusting and put on the primer; they need to finish the last bit of painting before reaching port as they have a port state inspection on arrival. (Vignette 1)

Vignette 1, above, demonstrates the understanding of practices of seafaring in two instances. The first case is where John takes the initiative to seek out the chief officer in the cargo operations room. This shows that he is aware of the chief officer's work routine, and knows where to find him. This awareness comes from shipboard familiarization, observing the practices on board, learning where members of the community might be and using information learned at the training center about shipboard practices (which we saw in the previous chapter).

The second instance is shown where John overhears the boatswain and OS discussing that the aft deck needs to be painted and anticipates that he will be asked to work there. These micro instances demonstrate an awareness of the performances required by newcomers, that is, what John has to do during deck work. They also show how those performances fit into the wider nexuses of performances on board that make up the practices of seafaring, that is, what are the other members on the ship doing as well, for example, what will the chief officer, the boatswain and the OS be doing? In understanding the practices, John knows what to do and, in turn, is able to anticipate when he might be able to proactively perform.

An aspect of developing sensitivity is understanding the work rhythms on board. This involves knowing whom to approach, how and when, in order to take the initiative to ask for opportunities for participation. The interview extract below shows that the officer as a cadet found that asking for help itself was not a problem, as there were people on board with the know how to perform the tasks, but the timing of the asking became necessary to produce a positive response.

I: And how did you get this opportunity to do the work? Would you just ask if you could …?
I13-O4: You just need to ask, you just need to ask. If one guy doesn't like to teach you then go to another guy. There are so many people on board to

ask for help, so for example, if you need to know about painting or this someone will teach you, yes. You just need to know when and how to ask.

I: So, you need to be sensitive to, you know, you can't go and ask after a very busy day of work or anything like that?

I13-O4: Yes. If you know that we just left the port then a good time to ask because everything is done, you know, the pressure is done already, then ask.

The officer in the example above mentions that after leaving port is a good time to ask because most of the work is done, so the crew and the officers are free. Hence, knowing when takes on a collective dimension here, because the knowing depends on not just the performance of the individual but also the performance of others (Gherardi & Nicolini, 2002).

Approaching old-timers also involves knowing whom to approach to increase chances of participation. This knowing is demonstrated in the example below. The officer reflecting on his time as a cadet noted that the captain did not like him to go to the bridge, so the cadet waited until the captain finished his shift at two (showing an awareness of work rhythms) and then went on the bridge at two o'clock. He then asked the chief officer or the second officer for opportunities to participate. However, this participation came after the cadet had cleaned the bridge and undertaken the tasks required of him, after which then he "did his thing."

IB: Were you allowed to go to the bridge?

I13-O4: I was, I was.

IB: So, the captain was okay with you spending time on the bridge?

I13-O4: ... No, not that. The captain didn't like me to go on the bridge. So, I usually sneaked [laughs] in, but it was a good thing as well. In a way, he finished on the bridge at two, so I started my duty at two. I asked for the chief mate, sometimes if the chief mate didn't want to teach me, I went to the second mate, and when the second mate didn't want to teach, I went to

the chief mate. And then, of course, I needed to clean first, help them and then I could do my thing.

The example above again shows that practices and, hence, the learning that occurs in this sense is a collective activity. This interdependence and an awareness of it are closely linked to the future orientation of the practice – knowing what to do next (Hager & Johnsson, 2012: 255). That is, cadets, through observation, listening, being in proximity to old-timers and participating in practices, develop an awareness of the collective dimension of practices (Gherardi & Nicolini, 2000). That is, knowing where other members on board are, what they should be doing and knowing the work rhythms on board, learning what to do concerning not only their performances but the performances of others.

5.1.2 Seeking Technical Information

The second aspect of developing understanding of practices comes from using the technical information to develop an understanding of practices in order to participate. The information used was gathered through familiarizing oneself with the nautical publications, asking for opportunities to observe navigational practices, and asking officers information about their specific areas of expertise.

While they wait for the third officer, John tells the chief officer that he needs to complete the cargo operations section in his training record book and asks if the officer is free sometime during the next few days to answer John's questions. The chief officer says that if John is available tomorrow after dinner, then he can come up to the bridge during the chief officer's watch to get his questions answered. (Vignette 2)

In the vignette above, John, for example, asks the chief officer if he can

answer questions about the cargo operations. Here, as the chief officer is both the training officer on board and the officer in charge of the cargo operations, he becomes the right person to ask for help. Furthermore, in John's seeking of technical information, we see an awareness of knowing whom to approach and when to contact them, which is a form of anticipation. In asking the chief officer questions, John is also taking the initiative to learn the practices of cargo operations. It is noticeable that when cadets take initiatives, the positive responses of the old-timers help create micro interactions which legitimize the participation of the cadet. For example, the chief officer's positive response when John asks him for help with technical information on the cargo operations suggests a willingness to devote time to help John. These situations show that the process of negotiating access to participation is by no mean one-sided, it involves a dialogue between multiple members of the community.

A second aspect is to use technical information learned at CCTC or from books and manuals to create a background understanding of the practices on board. This is also exhibited in the example below, where the cadet notes the importance of "background of knowing", intention to learn and performance so that the old-timers allow opportunities for performance.

I8-C6: 'You should at least have a background of knowing what you are doing, and then you should show your intention to learn. So that they would give you an opportunity to do so.'

The cadets need to show that they are aware of certain technical information (theoretical principals of navigation, codes, standards) and could acceptably perform the tasks. In the example above, first, there is an understanding of practices, which is the "background" that is, having a general sense of knowing what you are doing. Second is showing the intention to learn here which is demonstrated when talking to the officers. Here, the intention to learn can be perceived as initiative-taking, that is, the

discriminating in-situ that the current situation might be a good opportunity for proactivity and the third aspect would be the performance itself.

Another point of using technical information is to use the information to ask informed questions. By studying before asking questions, the cadets can show a prior understanding of the subject matter which leads to asking informed questions about the specific parts that are not yet understood. When the cadets get the opportunity to ask questions, they need make the most of the limited time available to them in the midst of operations.

I: ... And what did you do on the bridge?
I13-O4: Usually I do the lookout, and then I am trying to learn what are the usual things that other officers do. I was the type of person who always asks questions. But, before I ask I study because I don't want to ask the whole thing, I only wanted to ask those things that I wasn't able to understand.

In asking informed questions, the cadets seek technical information in a manner that also demonstrates their competence. Hence, seeking technical information allows the cadet to position himself as a potentially competent member, because in seeking technical information, the cadet shows an awareness of whom to approach for what information, thereby showing an understanding of the ongoing practices of other members of the community.

5.1.3 Developing Sensitivity through Errors in Judgement

The third aspect of developing understanding of the practices of seafaring comes from learning from errors in judgement. These errors occur when cadets engage in a proactivity (that is, they anticipate and act without prompt), but they do so in a way that goes against the correct ways of

performing in the practices of seafaring on board. This is an important aspect of transition because as they move towards fuller participation, their understanding of the practice also changes, going from a more general understanding to becoming more nuanced. One way in which cadets develop these more nuanced understandings is by making errors in judgement are which are then corrected or explained by old-timers. This is exemplified in the interview extract below. The cadet narrated an incident where he was on the bridge and noticed the ECDIS display was on the wrong setting for the time of day. Understanding how the setting should be, he corrected it. However, rather than being praised for being proactive and correcting the error, he was reprimanded.

I8-C6: So, when I came to the bridge one time I saw this ECDIS (Electronic Navigational Chart) which has a night mode or day mode setting. It was still on day mode because the chief mate's duty was from 0400 to 0800 and 1600 to 2000 so normally the chief mate would have to change it. At that time, what happened was the chief mate did not set it to night mode. So, he was on the bridge wing and then I, with all of the best of intentions, set the ECDIS to night mode. When he (the chief mate) got back inside the bridge he was just 'oh, what happened, what are you doing, why is this like that? Are you the navigating officer'? I apologised to the chief mate because I forgot that we had to ask permission, never to make use of controls. We are not really the ones in charge, they are the ones in charge, and they will answer for operating the vessel so we really had to ask permission first before we could use that.
I: So then was he okay with you changing the mode, did he let it be at night mode or did he change it back?
I8-C6: Yes, as long as I asked permission next time.

This example shows that, while the cadet acted without prompt (proactivity) from the old-timer, this was a situation where the proactivity invoked a negative response. This was because, while the cadet was correct

in changing the ECDIS mode, he was insensitive to the realities of safe working practices on board and the practices of accountability. During a navigational watch the officer on watch is responsible for the ship; if there are mistakes made, then he will be held accountable. Furthermore, if the cadet had made a mistake, he might have compromised the safety of the vessel. Hence, the cadet touching equipment without permission is treated as a transgression. While the cadet had a general understanding of how the ECDIS should work and what the chief officer should have done, the repercussions of the error allowed him to refine his understanding of practice, such as the aspects of accountability, hierarchy, and safety. Therefore, becoming more sensitive to the practices on board and taking those into account when being proactive could be seen as part of the process of becoming 'an insider in a community of practice' (Gherardi, 2001: 133).

This section has shown that in order to successfully proactively perform in practice the cadets need to develop understanding of practices on board. The development of sensitivity involves knowing whom to approach, when and where, which is developed through observation, proximity, and participation. The cadets also develop sensitivity through seeking information about opportunities to participate and showing their understanding of practices through asking informed questions. Finally, cadets develop more nuanced understandings of practice through making errors in judgement. Having looked at the development of understanding of practice required for skillful proactivity, the next sections analyze the forms of proactivity which are broadly defined as body work and spatiotemporal work.

5.2 Body Work

As reviewed in Chapter 2, the body plays an important role in shipboard practices, due to the physical nature of the work on board. An aspect of proactivity is the way in which the body enables or constrains participation on the part of the newcomers. Body work is done when newcomers proactively enable the body to perform tasks in situations where the body might otherwise be a constraint. The cadets show body work when they learn to use their bodies in ways that increase their chances of participation. Yakhlef (2010: 419) maintains that 'participation in activities involves a specific set of bodily capacities and performances.' That is, in order to participate in a practice certain bodily skills and performances are required. For example, in Lave's (2011) study of the tailors at Happy Corner, becoming a tailor needed the bodily capacity of knowing how to hold a thread to sew, looking at the holes for the buttons to know where to make the stitch, all of which are bodily capacities developed in practice.

In order to perform as a competent member of a community of practice, newcomers need to learn these bodily capabilities and performances. Building on this, my findings demonstrate further three key ways in which body work was performed on board. First, cadets proactively used the body to adapt to the hard-manual labor, which involved getting used to the physical environment of the ship, the hard-manual labor itself, and preparing the body to participate before being asked to do so. Second, cadets proactively dealt with tiredness, which involved seeking opportunities for participation despite being tired and learning to be alert when performing work practices. Third cadets proactively coped with fear, which included overcoming nervousness to work in dangerous situations or to work with new equipment in order to seek opportunities for participation.

5.2.1 Adapting to Hard Manual Labor

The OS starts the chipping process using the chipping hammer. It is hard work; the noise of the chipping hammer overpowers the steady thrum of the engine. John, the deck cadet, is glad for his glasses and the ear protection. He takes on the job of cleaning the area so that they can move on to putting down the primer next. John remembers that even three weeks back when he first came on board, he found the physical labor of the deck work difficult. Even though he played basketball three times a week at the training center and tried to go to the gym regularly, he had not been prepared for how exhausting it would be to do day work. It was a never-ending case of keeping the ship in good condition – the de-rusting, grinding, painting, washing the deck, checking the ropes, cleaning the accommodation. (Vignette 3)

Adapting the body means that the cadets need to understand the work requirements, anticipate what might be asked of them and proactively perform without others asking them to do so. For example, the vignette above points to the difficulty of the physical labor required for deck work. In John's case, the physical exercise performed at the training center (through basketball) was not enough to prepare for the hard-manual labor on board the ship. However, John knows that he will have to work on chipping and painting today because he has overheard the boatswain and the OS discuss it (see section 5.1.1, vignette 1). Hence, he anticipates the work and proactively performs by going to ask the boatswain where he needs to go despite knowing the physical difficulty of the work.

Another aspect of adapting to the hard-manual labor involves getting used to the work environment; that is, being physically away from family and friends on shore, in order to focus on the tasks at hand. A way to deal with the physical distance from familiar surroundings is detailed in the example

below, where the cadet changes perspective to focus on the safe working practices in order to stop thinking about his family.

I: That's true. And what was it like for you living on the ship?
I5-C3: Well, it's pretty normal. It's just somehow you get homesick. That is very normal for the first time. You get homesick at first but when you don't think about the people in the village, your family, you just focus on yourself because you have yourself on board, so you have to focus on yourself. Relying on yourself or taking care of yourself and thinking about nothing else, is what works for me. What I did is, I didn't think about the family, my family here in the Philippines, I think about myself so that I can go home safely.

The physical adjustment to life on board also involves getting used to the movement of the sea, the noises of the machines on deck, the sounds of the engine, and the different types of environments that the cadet would need in order to participate in the practices of seafaring. For example, the cadet on board needs to perform tasks despite being seasick. The proactive aspect comes into play when the cadet performs these tasks before being asked to do so by other members of the community. The example below details a narration of doing deck work during a storm. Due to damage from a storm, two of the pilot ladders were lost. This meant that the remaining pilot ladder needed to be shifted each time the ship entered a port in order to allow the pilot to come on board.

I4-C2: Yes, we needed to navigate to the port. Then we go on deck we didn't know if the pilot ladder was there. We checked and realized that both the port and starboard side pilot ladders were damaged. So, we checked forward if he had a pilot ladder there and thanked God we did. But we didn't know if the ladder in the forecastle was good or not because we had not checked it in two years. We didn't have a choice but to use it. We always use the midship pilot ladders. So we took the pilot ladder from the

forecastle, and we put the pilot ladder on the starboard side. Then after that, for I don't know how many voyages, Taiwan, Hong Kong, Thailand Vietnam we transferred the pilot ladder from starboard to port side. Then from port side to starboard side and back and forth. And the pilot ladder made from manila rope is very heavy when wet, so it's difficult to carry so we are five people taking the heavy pilot ladder. When you wake up everything hurts.

This example demonstrates the type of physical labor that the cadets need to adapt their bodies to, on board. To give a perspective, an average pilot ladder would weigh around 200 kilograms, which is being carried in the above example by five people. Moving the pilot ladder from the port side to the starboard side and back was important in that situation because it allowed the pilots at each port to embark the ship. Part of adjusting is to persevere in the task despite the physical pain. By doing so, the cadets can show that they can "keep up with" the old-timers on board. Furthermore, they demonstrate that they are reliable when there are breakdowns on board (losing the pilot ladders), and they can perform as a part of the team (helping the other crew members carry the ladder).

Working with the deck crew through helping them move the ladder is necessary for the cadet's transition in two ways. First, deck work is an important aspect of the transition from cadet to officer at Crewco because when the cadets become officers, they will be managing the crew; hence, they need to understand what deck crew does in order to be able to manage them in the future. Second, being competent in deck work helps them gain the good will of the officers on board. The captain and the chief officer get regular updates on the cadet's progress from the boatswain. Hence, participating competently in deck work has the potential to increase opportunities for participation both on deck and on the bridge in the future. Furthermore, during maneuvers, the officers can see what the deck crew is doing. In my experience on board MV Sea-line, it was not uncommon for

the captain to call down to the boatswain on the deck when he saw one of the crew not participating as per instructions. If the cadet is not seen to participate well in the practices on the deck, his opportunities for participation on the bridge become restricted and cadets were usually relegated, instead, to cleaning the accommodation block.

Suddenly, the captain sees something. He calls for the boatswain to keep an eye on the forward station, saying that he can see someone working without the helmet and he is very angry, saying that it is not done and that this should be the last time he has to issue a warning. [MV Sea-Line Field Notes]

Another example of enabling the body for participation in the practices on board is to use the body to enable performance during a task where the body might, instead, be a constraint. This is shown in the example below, which is a continuation of the narration in the example above.

I4-C2: Then the boatswain asked me if I knew how to make a pilot ladder. I told the boatswain yes, I know how to make a pilot ladder.
I: Is that something that you were taught here?
I4-C2: Yes, I know how to make a pilot ladder because we have training at the training center. The boatswain also knew how to make a pilot ladder. I assisted him, and the other crew assisted both of us to hold and make the ladder. Then after that for almost two days we made a pilot ladder. It's very, very difficult because you can use gloves but if you tie the pilot ladder with gloves it's very slippery, and it takes time to tie it, so you need to remove the gloves, your hand bleeds. For almost two days your hand is swollen. But we successfully made two pilot ladders over nearly four days.

The example above shows a situation where the cadet participated in making a pilot ladder despite the physical pain involved. Here, anticipation is seen through knowing how to make a pilot ladder, that is, using skills

learned at CCTC and applying them on board. Furthermore, the cadet took the initiative to work without gloves, despite the physical pain (bleeding hands) in order to finish the task faster. Due to the number of port stops made by the vessel, quickly completing the new pilot ladder was imperative otherwise the rest of the crew would have to carry the old pilot ladder from one side to another again. Moreover, the cadet notes that the gloves make the rope slip; hence, working without gloves is also a way to ensure the task is completed without mistakes. The building of the pilot ladder helps the cadet show to the community on board that he is a useful member and has the capacity to participate. Moreover, through helping the boatswain, he legitimizes himself to the senior-most member of the deck crew which, in turn, might lead to more opportunities for participation.

In the example above, the body became an enabler of performance – making two pilot ladders in four days, rather than becoming a constraint, as the physical pain caused by the task could have prevented the cadet from completing the task. An aspect of adapting to the demands of the physical work on board is to get the body used to the difficulty involved in performing the physical tasks. The ease or difficulty of the courses of action is judged through the perception of the senses within a practice (Schatzki, 2002). What might be harder physically for the cadet now, might not be judged so when the body adapts to the work. In this sense, the body and the constraints on the courses of action are linked. For example, in vignette 1, John notices the difference in doing the task of chipping and painting, where three weeks prior he would have been exhausted by the task. By proactively enabling the body to adapt to the work the cadets open new avenues of action which might not have been possible before. In John's case, physically adapting to work means that he is less tired from doing the deck work. This might mean that he can participate in other practices, such as going to the deck, studying nautical publications and spending time with the crew or officers, which might not have been possible if he was physically exhausted from work.

A part of becoming a practitioner also involves embodied learning in working practice, that is, 'we learn to keep an eye on the environment; our senses are refined, we are socialized into education-specific, perceptive and sensorial faculties relevant to the activity in which we are engaged.' (Parolin et al. 2014: 355). In this sense, proactivity can be seen as an embodied accomplishment. An example of this is detailed below, where the cadet used his relative physical fitness to take on additional responsibility as part of the deck team, therefore building his body to take on the "hardest work." He proactively takes on the hardest work in order to alleviate the physical work done by old-timers who might not be as physically capable of performing tasks as they once were.

I13-O4 My problem there during my time, my second vessel time because I have a Cabo Verdean ABs who is already about 60 years old so I am the youngest. One AB is about thirty and two OSs who are about 65. And I need, of course, there is no problem with their attitude and no problem, it's just that, of course, they are a little bit weak now because compared to the age, the age of course, right. So, of course, I don't want them to push themselves too much, so I do the hardest work. [laughs] So I learn.
I: So that was a good opportunity for you.
I13-O4: A good opportunity to move, so yeah.

The difference between proactive body work and normal doings of practice is that normal doings can involve performing after prompts from others; that is, doing because one is told to do so, while proactivity involves performing before being prompted by others. By proactively performing body work, newcomers show that they are able to understand and anticipate the demands of the work. Hence, here, we see the link between the developing understanding of practice and using that understanding to do body work such that it leads to participation. It is the anticipating and then proactively performing that allows newcomers to negotiate access to

participation successfully. In the example above, through taking on the hardest work, the cadet positions himself as a member of the group, who is physically capable of performing the task. As such, he shows his willingness to take on additional responsibility. The responsibility of the hardest work might be something that old-timers reaching retirement age do not want, but for the cadet it is "a good opportunity to move". A related aspect where the body is used in proactivity is when dealing with tiredness caused by the physical demands of the work.

5.2.2 Dealing with Tiredness

The captain says that he had heard good reports from the boatswain about his (John's) work and was happy that John was coming to the bridge regularly. 'The last cadet did not do that' he says to the chief, 'but John has been good, he comes up even when he is tired.' The captain smiles and nods, before heading over to his computer station to send some emails to the office. Now that the ship is at sea, he can catch up with some of the administrative tasks. (Vignette 4)

In vignette 4 above, John is praised by the captain for heading up to the bridge after his day-work despite being tired. The praise by the captain for doing good work on the deck and coming up to the bridge shows the willingness to provide opportunities for participation as a response to proactivity from the cadet. In the vignette above, this willingness to provide opportunities for participation is seen when the captain does not question John's participation on the bridge, rather he praises him for coming there. The bridge is the center for the practices of navigation on board, which are essential to the identity of being a deck officer because the primary duty of a deck officer is being in charge of the navigational watch on the ship. Hence, learning the practices of navigation is critical for cadets' inbound trajectory towards becoming deck officers and as such

going to the bridge becomes an important aspect of the transition. However, opportunities to go up to the bridge might not be a part of the duties given to the cadets, so the cadets usually head to the bridge once they have completed their work for the day. Through the data, it was noted that one of the key reasons for the cadets not to head up to the bridge to learn the practices of navigation was the tiredness from the day work, as is exemplified in the extract below.

Once his captain asked him, "why don't you come up to the bridge?" He states, "After working for 12 hours on deck, and cleaning the accommodation I was too tired to go on the bridge". (MV-Sea Line Field Notes in conversation with a deck officer)

In the example above, the body constrains the cadet's participation on board. Due to tiredness, he is unable or unwilling to go to the bridge. A similar theme was noted by Michel (2011) who, in her study of investment bankers, notes that after four years the bankers treated their bodies as antagonists. In her case, the bankers lost control over their bodies; they could no longer work the bodies as hard and long as they were used to. The bodies seemed to retaliate, there were physical break-downs, and nervous habits were developed. She notes that the 'the body caused cultural distance because it prevented full participation' (Michel, 2011: 349). At this stage, some continued to fight the antagonistic body while others learned to listen to it and the body became a subject (Michel, 2011). In the case of the cadets, tiredness or perceived tiredness also led to lack of participation opportunities; hence, the body also plays an antagonistic role on board. This means that the body becomes a constraint (it becomes tired) that needs to be overcome in order to participate. However, in most cases where cadets did gain access to participation on the bridge, they stated that they went up to the bridge, or performed tasks *despite* being tired. By overcoming tiredness, the cadets show that they are available to perform tasks. In doing so, they position themselves as participants, albeit

peripheral, to the established community of practitioners on board. This is demonstrated in the example below, where the officer, reminiscing on his time as a cadet notes the importance of showing an eagerness to learn by asking for opportunities and backing that with performing when the opportunities were given.

I: So how did you show him that you were eager to learn?

I17-O8: Yes, first I asked the officer and the second is I really do it. I am not saying that no, I am tired, I need to rest.

I: So even after you have finished your watch or whatever it is after you finished work for the day you would go on the bridge?

I17-O8: One hour it is enough, one hour thirty minutes is enough. You learn something. So, at that time, the captain said to me okay, this guy is very, very good because he wants to learn so I will give a chance and I grab it and then I do everything the officer told me this one, this one, do it like this, okay. He said okay.

In the example above, the proactivity is performed in two ways; first by asking the officers for the opportunity to learn, and second by overcoming tiredness to go up to the bridge after finishing the day work. For the cadet, even one hour, or one hour and thirty minutes are enough for learning. Once the more experienced members are aware of the intention to learn as well as the proactivity of dealing with tiredness, they are willing to provide the opportunities for participation. Here we can also note the result of proactivity on access negotiation. Body work in the form of overcoming tiredness can initiate the process of negotiating access as it creates the interaction between the newcomers and the old-timers that show the intention to participate and the willingness the allow the participation. The old-timers' willingness to provide access to participation provides opportunities for the newcomers to see 'the embodied exemplars' of what the cadets are seeking to become (Lave, 1996: 153).

Another aspect of dealing with tiredness involves knowing when to rest the body. Part of being able to perform as a competent practitioner is to rest the body in order to enable a competent performance at a later time. Resting, then, becomes proactivity when it acts as a deterrent against tiredness. Here, going back to Michel's (2011:22) study, the body becomes a 'subject that could guide actions,' that is, the cadets listen to the demands of the body and act accordingly. The body then becomes not something to fight against or overcome, but rather the cadets listen to the needs of the body. The cadets need to decide when resting inhibits participation and when it helps prepare the body for future participation. An example of this is detailed below. The cadet notes the difficulty of staying awake and alert as a consequence of lack of sleep due to the commercial pressures on board. As such, during rest hours, the cadets need to learn to exercise judgement as to how to use the time, whether to use it to rest or to go ashore.

I: And what would you say was the most challenging or the most difficult aspect of your time at sea?
I5-C3: Hmm. That would be to stay awake and be alert. Because the job at the sea and somehow you don't sleep, although we have many rules regarding this resource, these rules are not followed because of commercial pressure
I: So, you had ports quite close to each other, and then you have to keep [...] Okay.
I5-C3: Yeah, you have to be alert every time and manage your time, your rest hours, that is the most difficult part, whether you choose to rest or you choose to go out at the port.
I: So, what did you choose?
I5-C3: I choose to rest. [laughs]

Regarding body work, the above example shows that rather than going out when in port, the cadet chose to rest. Deciding to rest the body so that it is alert for work is a form of body work. This judgement is of particular

importance when resting time becomes a scarce recourse on board. In this sense, inaction through resting enables future proactivity.

Overcoming tiredness also allows the cadets to perform tasks to the standards required by the community of practice.

I: So how did that come about? How did they start letting you work on the equipment?

I5-C3: Well, I showed them that I could operate this equipment and I showed them that I could manage, I understand what I am doing, and I am very careful to do what they are doing and very attentive to what they are doing.

I: So when did you start noticing that it got easier to do certain tasks?

I5-C3: When I can say that I can, when I can do it like them, when I don't get tired easily, just like them. Because at first, I get tired easily because I'm doing heavy jobs, lifting something, doing something, it's … I get tired easily, unlike them, I can see that they are so powerful in doing things. Later on, I can show them that I am just like them.

In the example the cadet judges that he is performing to the standards of the community because he does not get tired, just like them (the officers). Furthermore, he shows that he was able to understand the principles behind the task he was performing and he was able to imitate the performance of the old-timers. By observing what the officers or the crew are doing the cadet can understand and remember the procedures. Additionally, he "does what they are doing". In the previous chapter, we saw that the cadets needed to know why at the training center and needed to know how on board the ship. The imitation of the old-timer's performance shows this 'know how'; it involves 'complex micro-social interactions in which language, observation and workmanship mix and merge' (Gherardi & Nicolini, 2002: 206).

There are two aspects of skillfulness demonstrated above; one is a task-based component; that is, the cadet is proactively "showing them" that he could operate the equipment, and "being very careful to do what they do," in order to perform the task correctly. The second aspect of performance is imitation. Through imitation the cadets show that they are bodily and cognitively able to accomplish the task through "understanding" and through not getting tired "just like them." Skillfulness through imitation then becomes a way in which cadets can show that, given a chance, they can be skillful in the trajectory. In the example above, we also see the willingness to allow participation from the old-timers as a response to overcoming tiredness. The old-timers let the cadet work with the equipment after seeing that he could operate it to the standards required by the community.

5.2.3 Coping with Fear

John was nervous during the first mooring operation, having heard all the stories of accidents and fingers being caught in the winch. He was also very nervous to handle the rope. The boatswain asked him, "what are you doing? The rope will not break!" However, he was nervous that the rope would break and it would cause an accident or damage. The boatswain said it was okay because it was John's first time. John wanted to learn to perform the mooring operation, so he asked the AB where he could find the mooring plan. That evening and the next day, John studied the mooring plan, what each member of the team was doing, where the ropes were going, what sorts of arrangements were possible, so that he understood what to do during the next operation. He also asked the boatswain to help him learn, and the boatswain was willing to help. The next time there was no problem. (Vignette 5)

Being a newcomer on board involves dealing with new maneuvers, new equipment and situations that might not have been experienced by the cadets before. At the training center, the cadets learn about the consequentiality of actions on board. However, faced with the real-time situations, experiencing maneuvers, working with equipment and dealing with stressful situations causes nervousness due to the fear of the physical consequences of mistakes or accidents. This, in turn, constrains the ability to participate in the practices of the community. Hence, cadets need to proactively learn to deal with the fear in order to participate in the practices on board.

In the vignette above, John is unable to perform the mooring operation because he is nervous about handling the rope. Due to the strength of the rope and the speed of the maneuver, if he lets go of the rope if the rope breaks or he places his hand on the winch, he could cause severe damage to himself and others. In this case, there is proactivity from John's side in his decision to overcome his nervousness about the task where he asks the AB for the mooring plan. John then demonstrates proactivity again when he goes through the plan in detail and goes back to the boatswain for help. Proactively overcoming the fear to perform certain tasks allows the cadets to engage with the work as other members do and, in doing so, they acquire 'the embodied ability to behave as community members' (Brown & Duguid, 1991: 48). Here, we again see that proactivity elicits a positive response from the old-timers. When John asks the boatswain for help, the boatswain is willing to provide help.

A second aspect of coping with fear is related to working with new equipment on board. The first sea-service voyage undertaken by the cadets comes after their first block training at CCTC. Hence, at this stage, while they have seen and observed the working of the navigational equipment during simulator sessions, most would not have had the chance to work with it. Fear arises when the cadet is tasked handling equipment without

prior shore-based training. In the example below the cadet explains the nervousness of touching the wrong buttons due to the fear of the officer's reaction and the potential consequence of losing the records. Proactivity is shown when the cadet asks the officer for help in learning to perform the procedures.

I: So, the first time you handle the equipment was without any prior training?

I4-C2: Yes, that is what I found very interesting that I could learn about these things. At the same time, I was so very nervous to touch the equipment, and it was only slowly that I became comfortable with using the equipment. The first time I doubt the equipment I was very, very scared to touch the buttons because if I did something wrong maybe if you touch the button and a fault appears, then the officer will be very angry at me if the records inside disappear, something like that. So, then I asked the officers how to do the procedures and sometimes officers are also very busy, so I get some time with them if they're not very busy to teach me how to do that.

In this example, body work is exhibited through taking the initiative to learn about the equipment in order to overcome the fear that arises when touching it. The cadet's nervousness arises from the fear of the consequences of an incorrect physical action. Hence, learning the correct procedures in order to be able to perform the correct physical actions, that is, touching the right buttons, is a way in which the body becomes able to do a competent performance of the task.

The findings in this section have shown the ways in which the body enabled or constrained proactivity on board and the ways in which cadets enabled their body in order to act as competent practitioners on board. Here body work refers to the specific kinds of proactivity where the body enabled participation in situations where it was initially a constraint. As such, the three themes of hard manual labor, tiredness, and fear exhibited

the three main reasons due to which cadets would not be able or willing to participate in the practices on board. In order to transition towards fuller membership, some cadets overcame the physical constraints of the body on board and in doing so started to negotiate access to participation through proactivity. The next section moves on to the spatiotemporal aspects of proactivity, where the cadets used the physical space, materials and temporal rhythms on board to enable proactivity.

5.3 Spatiotemporal work

In addition to overcoming the physical demands of the work practices on board, proactivity entailed actually going to certain spaces that provided sites for specific practices. De Vaujany and Vaast (2014: 714) maintain that 'organizational spaces provide contexts that enable and constrain what people do.' The ship as a site of practice can be broken down into specific territories (Orr, 1996; Yanow, 2006) where certain practices are materially situated. For example, the bridge and the deck are spaces where the practices of navigation are located, the engine room is where the practices of maritime engineering are located, and the galley is where the practices of cooking are located. Furthermore, the accommodation area and the mess room demarcate the working and living or recreational spaces. On board the ship, the cadets had access to certain spaces such as the deck, which helped them participate in some aspects of their inbound trajectory, but not to other spaces, such as the bridge, where participation needed to be negotiated. In the example below the cadet is describing his first two days on board and the lack of awareness of spatiotemporal territories and rhythms on board.

I32-C12: At first I was confused, where should I stand up, where should I sleep, but now it is okay because I know, I learned how to do it. In the first two days, I even didn't know when I should sleep. I kept asking, 'okay what

172

will be now?' 'okay, what will be then?'' how much time do I have?' 'am I free now?' I was just running around the whole vessel, and I did not know what to do.

From the example above, it can be noted that cadets as newcomers on board need to learn how to navigate the spatiotemporal dimensions of living and working on board in order to be able to participate as a competent member of the community. Furthermore, the cadets needed to proactively find ways to participate in spatial territories such as the bridge because participation in these territories was crucial for their transition toward fuller participation. The analysis revealed that there were two ways in which proactive spatiotemporal work was performed. First, cadets proactively sought opportunities for participation in certain spatial territories which would help them participate in the inbound trajectories towards fuller participation. Second, cadets proactively sought time for participation in specific spatial territories. These two forms of spatiotemporal work are detailed below.

5.3.1 Seeking opportunities to participate in spatial territories

At 1955, the third officer comes up to the bridge and greets John and the chief officer. He then goes to the navigation console to check their position on the ECDIS and scans the radar to check for any targets. At 2000, he asks John to plot the chart to note their position on the hour and then asks the chief officer for the weather report, any navigational warnings, visibility, sea state, the chance of fog. After relaying the information, the chief officer takes his leave and John and the third officer settle in to keep watch. The third officer goes out to the bridge wing to confirm the sea state and the weather report from the chief officer. About 15 minutes in, the chief officer calls up indicating that he has completed the accommodation

and galley checks and that it was all okay.

It is an eerie feeling to be on the bridge at night, all the lights are dimmed, and only the screens are visible, John is still getting used to it. John keeps an eye out for any vessels or any small fishing boats which are common in this area. John notices lights in the distance. He uses his binoculars to check the lights and sees a red light that signals a crossing ship. He immediately heads out to the bridge wing to take the bearing. He heads back to the bridge deck and points them out to the third officer, who has already acquired the targets on the radar. After three minutes John heads back out to take another bearing and reports it to the third officer. The third officer looks pleased that John took the bearings without prompt and because the bearing is steady he alters course slightly to avoid the vessels. (Vignette 6)

On board the ship, cadets need to seek opportunities to participate in spatial territories where certain practices of navigation are performed, in this case, the bridge. Here the concept of territory is used to denote the location of specific practices on board and the 'spatial-social nesting of responsibilities' within those spatial locations (Yanow, 2006). Hence, through proactivity cadets can gain access to contextual spaces which are territories of certain practices (Yanow, 2006). As Brown & Duguid (1991:50) note, 'They (learners) pick up invaluable "know how" – not just information, but also manner and technique – from being on the periphery of competent practitioners going about their business.' For example, in vignette 6, the bridge, as well as the bridge wings, provides the space for John to engage in the practices of keeping a lookout. Furthermore, it allows John to observe the practices of officers such as handing over a watch or taking readings. Being on the bridge wing at night allows John to get used to night-time conditions, spotting targets and using materials such as the binoculars, radar and ECDIS. Hence, being in a spatial territory allows newcomers to act as peripheral participants in the practices specific to that

space. In being on the bridge with the officers, the cadets are potentially able to participate in performances that lead to them being on the inbound trajectory towards fuller participation. This is also noted through the interview extract below, where the cadet notes the opportunities to learn that came from being on the bridge.

IB: Okay fine, and what was your time on the bridge like what did you learn on the bridge?

I10-C8: I learned to plot position using radar, ECDIS, wind direction, and how to follow the COLREGS to avoid a collision, and how the navigating officer works and how to correct charts, books, nautical publications, and how to perform the tasks of a lookout.

In the vignette 6 above John initiates proactivity when he goes to the bridge wings to take the bearing. Furthermore, when John rechecks the bearing, he shows his understanding of the procedure that is needed in the situation. Here we see the link between forming if-then connections at CCTC (Chapter 4, section 4.1.3) and using those connections for a competent performance on the ship. Moreover, John takes the initiative to perform the task, again showing not only that he knows what to do and how to do it, he also demonstrates his knowing through performance. Hence, he shows his ability to perform tasks to the standards required by the practice as a way of demonstrating skillfulness through participation. The fact that he does so without being asked or told how to do it shows the proactive skillful performance. In performing the task without prompt, John positions himself as an active participant of the watch-keeping team. Proactivity is to be able to act skillfully without prompt in order to engage in the practices; this proactivity would not have been possible if John had not taken the initiative to go to the bridge.

Proactivity in specific spatial territories involved negotiating opportunities to participate in those territories. In order to do this successfully, cadets

needed to be aware of the hierarchies in those spatial territories. On deck, the access to participation was mediated by the crew, by the chief officer and, of course, by the captain. During the day work, it would be the boatswain, the person in charge of the ratings who gave the work orders to the cadets. Usually, the chief officer is also the training officer on board. However, the captain has the overriding authority and also controls access to the bridge. If permission to go to the bridge was granted by the captain, the cadets seemed to have a higher degree of participation. In other cases, permission to head up to the bridge would be given by one of the other officers, and here the cadets would go up during that particular officer's watch. In the example below, the officer notes that during his time as a cadet, he had asked the captain if he could work on the bridge. The captain's acquiescence meant that the cadet could go to the bridge during all officers' watches.

I23-O14: From 8-12 and 1-5 I work as a rating and from 8-12.

I: You take on the watch.

123-O14: Yes, I take on the watch along with 3rd mate.

I: And is this something that the Captain encouraged? Or did you have to ask for it?

I23-O14 I asked Captain if I can go to bridge and he said that it's not a problem for me.

I: And what about the other officers, were they happy to have you on the bridge?

123-O14: Yeah, they are happy, because they have a companion on the bridge if I ask them they teach, so I gain knowledge, and he also gains knowledge from me.

As the interviewee suggests, getting permission from the captain, allowed him to gain access to the bridge, and this access also involved access to the officers who participated in the practices of the spatial territory. In the example above, the officers were happy to have the cadet on watch with

them. An important point to note is that the cadet used his opportunity to participate on the bridge in order to engage in further proactivity when he asked the officers to "teach" him aspects of navigation. Hence, a part of spatiotemporal work involves being accepted as a legitimate participant in those spaces. In the example above, because of the hierarchy on board, acceptance from the captain to be on the bridge, also meant that the cadet was accepted by the other officers. In a way, the cadets on board the ship are operating at a 'double periphery' (Yanow, 2004: 14), they are both peripheral in terms of the hierarchy on board and peripheral in terms of being newcomers to the ship. It is through accepting cadets as members of the community that gives them a legitimate access to practices on board. If cadets are perceived to be prospective officers, then per their rank, they are given access to certain navigational practices along with deck work. If they are not viewed as prospective officers, then they are treated as deck crew and relegated to the deck. As Macpherson (2013: 270) maintains, 'participation if it is to be legitimate and competent, depends on others viewing it as such (Fox, 2000).' This perceived skillfulness increases the chances for participation as is shown in the example below.

I: Does it depend on the people on that ship?
I6-C4: Yes, it depends on the people. The people see you as oh he is good, he will become an officer, he will become a good officer, you are not treated as a cadet anymore.

In the example above, demonstrating proactivity leads to an acknowledgment of the inbound trajectory of the cadet "he will become an officer" and a perception of future skillful potential "he will become a good officer." This, in turn, changes the way in which the cadet is perceived by the community in the present. This consequently legitimizes the cadet's presence in the spatial territory of the officer (the bridge).

A second aspect of seeking opportunities for participation in specific

spatial settings involved getting opportunities to work with materials specific to that setting. In the example below, the cadet's initiative to go to the bridge led to the old-timers letting him hold the steering. Hence, by going up to the bridge, he was afforded the opportunity to work with materials specific to the bridge and the practices of navigation, holding the steering.

I: So, did you go to the bridge before you became a lookout?
I6-C4: Yes, I went to the bridge, but there were limitations. It depends on the mood sometimes they would say go down sometimes in the morning and visit, and they would say oh go down you need to go down, take a rest. I go to the bridge every day from 8 to 12 because in the morning I work. So, they tell me, cadet try to hold the steering, first time. Because that is the main part of becoming an officer - I was on the bridge; I was holding the steering.

The interviewee above notes that he persistently took the initiative to go to the bridge, even though he was asked by the officers to go down and rest. In this situation, the cadet's perseverance was recognized, and he was able to participate in the practice of being a helmsman by holding the steering wheel. In this sense, the proactivity led to participation in specific spatial territories which, in turn, resulted in the possibility of working with materials situated in those settings. Proactively learning to use the material and learning to perform the procedures provides an avenue through which the cadet can negotiate access to material resources and secure participation.

Additionally, spatiotemporal work is related to taking the initiative to work with or gather information about equipment. In this sense, proactively negotiating access to space also provides the opportunity to engage with materials. Therefore, proactivity is ongoing in that proactivity leads to access which leads to opportunities for further proactivity. This is noted in

the example below, where access to the bridge meant access to materials that the cadet was unfamiliar with despite simulator training ashore. Due to his lack of familiarization with equipment, and because it was his first time on the bridge, in response to the cadet's initiative to ask about the equipment, the officer told him about the different pieces of equipment and what he (the cadet) was allowed or not allowed to operate.

I5-C3: For the first time, it was Saturday. I came to the bridge to study then I was amazed about the equipment because I just, I had seen on the simulator it is different from the actual bridge. So, I asked the second officer, and he showed me around, taught me everything I needed to know.
I: Okay. And what did you need to know?
I5-C3: For example, the areas that I don't have to touch. For example, this one, this is very difficult, or this is out of my current position, this is not something that I can operate yet. So he gave me familiarization. This is what this is; this is the rudder, this is the steering gear, the radar.

By asking questions about the materials in the spatial territory, the cadet finds a way to be in that space, to interact with the old-timer and to learn about the equipment. Hence taking the initiative to go to the bridge allowed the cadet to also proactively ask questions about the equipment. While at the training center cadets get to engage with equipment during simulator training, the risk of performing an incorrect action is negligible (See Chapter 4 Section 4.1.3 for in depth discussion). However, as the example above shows, the risk of an accident caused due to a lack of understanding of the equipment and how to use it is high on board; hence, learning to use materials also involves learning about the areas that should not be operated by the cadet. Therefore, the cadet is learning to develop an understanding of the consequences of the improper use of the materials.

A third aspect of seeking opportunities for participation in certain spaces is that it signals the intention and interest for participation to the other

members of the community. Examples of seeking opportunities for participation might involve asking for permission to work with equipment, as is noted in the example above or asking for permission to perform certain duties, tasks or to try a maneuver under supervision. This is different from body work because body work includes those performances where the body is enabled to perform where it might otherwise be a constraint. The emphasis in the spatiotemporal work is on spatiotemporal constraints on participation and how those are overcome through proactivity. As the example below shows, when cadets proactively ask for opportunities to participate in specific spatial territories, they are able to demonstrate their intention to learn. The captain usually works on the bridge, unless he is conducting drills or shipboard inspections. Spatiotemporal work is done when the cadet goes to the bridge and asks the captain questions. By asking the captain questions, the cadet signals his intention to learn which, in turn, creates a positive response from the captain who, in seeing the intention to learn, responds with the willingness to allow participation.

I: And how did you learn that? Were you given the opportunity to try the equipment?

I15-O6: Yeah. The officers were very helpful at times, yeah, and yeah, there were times that they allowed me to use equipment but really under supervision by the officers of course. I was very thankful of course that we tried it hands on. The only thing is that we have to persevere, to ask for it always, always for permission. Because otherwise if you just sit and be silent […]

I: […] You do not get anything?

I15-O6 You do not get anything. So yeah, every time where I go on the bridge I always see to it that I have something when I come down.

IB: That you have learned something.

I15-O6: That I have learned something.

In this situation, the intention to learn is demonstrated quite clearly and persistently to the officers. Here, seeking opportunities signals an intention to participate, moreover, if permission is given, it provides an opportunity for the cadets to demonstrate skillfulness. In this sense, seeking opportunities for participation and doing so persistently led to the officers' response of allowing the cadet to work with the equipment under supervision. Hence, here we see the link between bodywork and spatiotemporal work, in the example, spatiotemporal work leads to opportunities for body work.

For most cadets, seeking opportunities for participation on the bridge meant accessing a spatial territory where they did not have permission to participate or where participation was not given or sponsored (Lave, 1991; Lave & Wenger, 1991). In the example below, the officer talking about his time as a cadet notes that participation on the bridge was not granted to him initially, he was supposed to work only on the deck. Despite the directive, he took the initiative to go to the bridge to seek learning opportunities. His initiative-taking was rewarded when the captain, seeing his intention to learn, gave him the opportunity for participation.

I: And can you take me through a little bit about your learning on board? What did you learn and who taught you and you know, any stories or examples that you could give me?
I17-O8: At first for one month it's hard for me because my captain is Ukrainian and I think only the third of the service is Filipino. Yes. It's hard for me to approach because first when I go on board, they said that you will be only on deck so. But I challenge myself, no, I must go on the bridge to learn. So, these things, the captain saw me, that I am eager to learn, so he gave me a chance, and that is why I do it every time.

The example above shows that the proactivity of seeking opportunities for participation in certain spatial territories involves taking the initiative to go

to those territories in order to negotiate access to participation. Doing so, when access to spatial territories is not initially given demonstrates three elements. First, it shows the need for negotiating access to participation as newcomers. When access to participation in a spatial territory which is critical for transition is not given, in order to transition, the cadets need to negotiate access if they want to move towards fuller participation. Second, taking the initiative to go to the bridge and the positive response from the members of the community shows that proactivity is useful in negotiating access to participation. Third, going against the directive and taking the initiative to go to the bridge, the elements of power and resistance in proactivity start to come to the fore. If power is the action that influences actions (Foucault, 1982), then going against the directive of working on deck can signify resistance to power. Power is the ability of the community members such as the captain or the other officers to influence the actions of the cadet by not allowing him to perform in certain spatial territories. On the other hand, taking the initiative to go to the bridge signifies power from the perspective of the cadet. That is, through the proactivity of going up to the bridge, the cadet influences the actions of the captain where the captain allows his participation on board thereby creating a small change in the power dynamics of access negotiation.

5.3.2 Seeking opportunities to participate at specific times

At 1945 when John goes up to the bridge, the third officer has not yet arrived, but the chief officer is there, so John asks him what the situation is at the moment. The chief says everything looks okay at the moment but there are two targets on the radar that might develop into a dangerous situation and John should keep an eye out on them. John notes down the targets then asks if there are any standing orders from the captain. The chief officer says no, but states that per procedure, if there is any problem then the captain should be called. John acknowledges that and asks what

the orders are for the third officer. This is in case during handing over the watch the chief officer forgets to relay some information then John can inform the third officer. (Vignette 7)

Proactivity that is used to negotiate access to participation is also temporally sensitive. This means that to negotiate access to certain spaces successfully, the cadets need to engage in spatio*temporal* work such as finding the time to go to certain spatial territories or working overtime to gain opportunities for participation; or, as in the vignette above, going to specific spaces at specific times to participate in specific temporally-sensitive practices. For example, in vignette 7, John heads to the bridge at a specific time, that is, fifteen minutes before change of watch. His timing shows his understanding of the practices of navigation, and his awareness of work routine. Through his timing, John positions himself as a prospective officer by asking the chief officer questions that an officer taking over the watch would ask. Going up to the bridge before the handover means that he is able to position himself as a participant in the team. Furthermore, he positions himself as someone who is responsible for the safety of the crew and cargo on the ship. This can be noted through the reason for asking the questions – in case the chief officer or the third officer forgets to mention things John can ask as a back-up and provide the information.

Another aspect of spatiotemporal work is to find time to seek opportunities for participation from the existing routine on board. That is, in order to engage in specific spatial settings, the cadets need to find the time to do so. For example, cadets have to find time to go to the bridge. Some, like in the example below seek to spend the time resting while others use that time to find opportunities for participation. For example, in the section on bodywork, tiredness led to cadets not seeking opportunities to go to the bridge. The reason for this is that, if cadets are not given opportunities to go to the bridge, they need to find them in their own time. This usually

means that they head up to the bridge *after* they have completed their day-work.

132-C12: For me, it is very hard because you see we do a lot of day works and at night you have no time, actually not that you have no time, but it is better to spend that time resting.

It is important to remember that the forms of work identified are analytical categories and, in practice, they are entwined. In the example above, there is interplay between body work and spatiotemporal work and cadets need to exercise judgement in-situ as to which form of work is required. For example, the cadet needs to decide whether s/he should take the opportunity to rest to prepare the body for future participation or take the time to seek opportunities for participation on the bridge.

Another way of carving time is to extend the work time in order to move towards fuller participation. This aspect of temporal work takes place when the initial access to specific work practices has already been successfully negotiated by the cadet. For example, the cadet has successfully negotiated access to the bridge, and an officer or one of the crew asks him to work overtime. Here, if the cadet chooses to work overtime, s/he is performing temporal work which might help increase the chances of future participation. This is because working overtime becomes a way in which cadets signal their intentions to participate in increasing levels of responsibility. For example, the interview below highlights a situation where the cadet accepted additional responsibility and, through it, additional work time in order to participate in the duties of a helmsman.

I6-C4: It was only the AB and me, so it was six on six off (six hours on duty and six hours' rest time) *because the other AB was not to be trusted. However, unfortunately, I had to extend the time spent working. For example, my duty was from 12 to 6, but if we arrived in port at 8 o'clock,*

then we had to stand by because the AB would be on duty, so that AB would call me, "J replace me because we need to prepare the ropes." So, I had to replace him on his duty. Hence, I extended my times. That is why it was very hard for me because I had less sleep. It is very, very hard but I did not complain because I told myself that this was part of training and someday I would experience more than this.

Above, the cadet notes that he extended his work time in order to participate. While he was asked to do so by the AB, his acceptance shows a willingness to take on additional responsibility. This is signaled through spending extra time in performing tasks or spending extra time with old-timers and is possible only because the cadet is on the bridge with the AB (in a particular space). Spatiotemporal work, then, plays a role in creating opportunities for interaction with old-timers engaging in specific practices, hence working overtime not only increases the time of engagement, but also has the potential to create goodwill between the cadet and the old-timer, which might be useful in negotiating future access to participation. The transition of a learner in LPP is marked through the movement from partial to full participation, taking the initiative to take on additional responsibility marks an increase in participation.

 A related aspect of this is carving time out of existing routines is that it is not only used for opportunities for participation in specific spatial territories or practices, but also for finding time to enhance skills. This is noted in the example below, where the officer, looking back at his time as a cadet, notes that he used his break times to work on work performances that he needed to learn.

I15- O6 Apart from all these schedules I also have my own way of getting things done for myself.
I: And what was that?

I15-O6: Yes, asking for extra time on the bridge. And in fact, during break times I don't go to coffee, I practice for example other stuff like welding works. Because you have all the equipment on board and then these are basic things that you have to learn, and I did that.

The example shows that the cadet took the initiative to carve time out of the existing routine in order to enhance his skills at welding. In doing so, proactivity is performed in two ways; the first is the temporal work of finding time and the second is to use that time to enhance skills. By using the time to seek opportunities for skill enhancement the cadet is proactively working towards being a competent member of the community. If the cadet is able to demonstrate the competence, and show that he took the initiative to enhance his skills using extra time, he positions himself as someone who is interested in and able to transition toward fuller participation within the community.

The section above has shown the ways in which proactive spatiotemporal work was used to negotiate access to participation. This involved seeking opportunities for participation in specific spatial territories in order to access resources specific to that territory such as observing performances, access to old-timers and materials. It also involved using certain spatial territories for proactivity. Furthermore, spatiotemporal involved the ways in which cadets found time proactively, or used time for proactivity such as seeking additional responsibilities.

5.4 Conclusion

In sum, the question that this chapter sought to answer was 'how do cadets negotiate access to participation?' This was a particularly important question to ask in my study because on board the ship access to participation was not initially available. As the aim of my study is to look

at the practical accomplishment of LPP through understanding the process of transition, looking at the ways in which access to participation was negotiated became important. As access is linked to participation and participation to the process of transition to become a master of the practices (Handley et al. 2007), having no access to the practices of navigation could impede the cadets from becoming practitioners of navigation. Building on the themes of body work and spatiotemporal work, the chapter has shown that it was through proactivity in these areas that the cadets were able to negotiate access to participation. The summary table 5-1 below highlights the key points developed in this chapter.

Table 5-1 Negotiating Access to Participation through Proactivity

Themes	Key Take Away	Sub Themes	Important Points
Developing Understanding of Practices	Prior to proactivity itself, newcomers need to anticipate when to proactively perform, hence they need to develop an understanding of the practices.	Knowing Whom to Approach, Where and When	Newcomers need to develop an awareness of whom to approach, where and when. The awareness comes from ship board familiarization, observations, participating in practices and information learned at CCTC Understanding work rhythms leads to anticipating when and where proactivity is possible
		Using technical information to develop an understanding of practice	Newcomers develop understanding of practices by seeking technical information by using training manuals, reading nautical publications, and asking old-timers about their specific areas of expertise Using the technical information learned from resources such as CCTC, books and manuals, cadets can start to gain a background understanding The background information, helps the cadets ask informed question, which in turn shows understanding of time and commercial pressures placed on the officers and crew
		Developing Sensitivity through Errors in Judgment	Cadets refine their understanding of practices through errors in judgement Proactivity done incorrectly reveal nuances of practices that cadets might not be aware of
Body Work	Body Work involves proactively enabling the body to perform tasks on board in situations where the body might be a constraint.	Adapting to Hard Manual Labour	Doing hard manual labour on the ship is a big change that the newcomers need to adapt to after coming from CCTC The body is used to enable proactivity, when it could be a constraint. Adapting to hard manual labour involves proactively working despite the physical difficulty of the work, proactively making oneself available as a member of the team, proactively performing manual tasks that old-timers might not know and proactively taking on the hardest work
		Dealing with Tiredness	Tiredness was one of the key reasons that cadets did not go to the bridge (hub of navigational practices) Cadets who successfully negotiated access to the ship did so by going to the bridge despite being tired from day work Cadets also learned when to listen to the body and rest it to enable competent performance (being alert and aware) at a later stage. Overcoming tiredness was a way of demonstrating that the cadets could participate to the standards of the community.

		Coping with Fear	Cadet have work with equipment and perform manoeuvres which can have severe consequences, both as accidents and damage to the ship if done incorrectly, hence they have to cope with the fear of incorrect performance Coping with fear involves, practicing manoeuvres, learning more about the equipment, asking for help, learning the correct procedures, to be able to perform the tasks correctly in the future.
Spatiotemporal Work	Spatiotemporal work involves proactively navigating the spatiotemporal dimensions of work on board to seek opportunities for participation in specific spatial territories and find time to seek participation opportunities.	Seeking Opportunities to Participate in Spatial Territories	Cadets needed to proactively seek opportunities for participation in spatial territories such as the bridge, where practices crucial for the inbound trajectories were performed. Being in certain spatial territories enabled proactivity in those spaces, which in turn led to demonstration of skilfulness Seeking opportunities for participation in specific spatial territories gave the cadets a chance to proactively seek opportunities to work with materials specific to that territory Through proactively seeking opportunities in spatial territories, cadets could signal their intention to participate to other members of the community
		Seeking Opportunities to Participate at Specific Times	To successfully negotiate access to participation in certain spatial territories, cadets needed to proactively find time to seek opportunities for participation Cadets needed to seek opportunities for participation in temporally sensitive practices such as the changing of watch Cadets needed to find time from the existing routine on board to seek further opportunities for participation. This involved craving time out of rest hours or extending work time to show an intention to participate. Time carved out of existing routines was also used to enhance skills.

Through their participation, both at the training center and on board, the cadets had a general understanding of the practices of seafaring, this understanding led to an awareness of knowing when to potentially perform proactively. The awareness, in turn, led to in-situ discrimination of whether or not to participate which was seen through taking the initiative to perform proactively, which, in turn, resulted in the performance itself. Hence, proactivity through body work and spatiotemporal work was successful because these forms of proactivity were sensitive to the practices of seafaring on board. Through proactivity, cadets were able to position

themselves as competent to the members of the community. Proactivity involving body work and spatiotemporal work, when done in a manner acceptable to the community, elicited a willingness to allow participation on the part of the old-timers meaning that the proactivity acted as a means through which the cadets, as newcomers, could negotiate access to participation. This, in turn, means that cadets could negotiate access to participation in practices that would put them on the inbound trajectory to become officers (Wenger, 1998). Having shown how newcomers on board negotiated access to participation when access was not granted, the next chapter will focus on a more in-depth discussion on the themes that have emerged through the two findings chapters.

6 Discussion

The aim of this chapter is to develop a theory on the process of transition utilizing the findings developed in the previous two analytical chapters. The findings have focused on understanding the practical accomplishment of legitimate peripheral participation, which is key to the transition process. The empirical study thus used a multi-sited ethnography to zoom out and in on the practices of seafaring in order to understand how newcomers transition towards fuller participation. By zooming in on the training center practices and out across two key sites of practice (the training center and the ship), the thesis has focused on learning through movement. By zooming in on shipboard practices, the thesis has focused on how cadets negotiated access to participation in their transitioning to officers. Hence, it has looked at how newcomers successfully negotiate access to participation through proactive performances. There are two key theoretical contributions that my study hopes to make. First, it develops the concept of transition as an episodic process and shows how newcomers switch between three dominant modes of learning to transition towards fuller participation. Second, it develops the concept of proactivity from a practice perspective to highlight how newcomers negotiate access to participation to undergo the process of transition.

This chapter is divided into two sections: The first theorizes transition as an episodic process. It highlights the three dominant modes of learning within the transition process and how these modes of learning switch during each episode of transition. In doing so, it also focuses on how newcomers draw, redraw and refine distinctions during the process of transition. The second section focuses on the enactment of proactivity for access negotiation. It looks at the development of understanding of practices, and the forms of proactivity and, in doing so, it theorizes proactivity from a practice

perspective and explores how proactivity helps newcomers negotiate access to participation.

6.1 Transitioning as an Episodic Process

My findings show how newcomers navigate movement between multiple sites of practice and the influence this has on their learning. My study develops and extends the concepts of connecting, disconnecting and reflecting as modes of learning where modes of learning indicate the forms of learning that take place through participation at different sites. Connecting, here, refers to the act of linking aspects of one site of practice with another site of practice. Disconnecting refers to the act of noticing the differences in practice and disengaging from previous participation experiences. Reflecting refers to the act of assessing or evaluating experiences (Jordan et al, 2009).

While all three modes of learning can be found to some extent in each episode, the study argues that in each episode one mode of learning dominates. As newcomers engage in the episodic process of transition, the dominant mode of learning switches from connecting, to disconnecting, to reflecting. The term episodic process means that a process is iterative or moving back- and-forth and marked by (partial) disjuncture. While previous studies have hinted that there is progression and regression within LPP process (Lave & Wenger, 1991; Gherardi et al, 1998), my study highlights that the process of transition itself is iterative. Zooming in and out across sites of practice has revealed that there is disjuncture, not only in the physical movement between sites but also within the performance of practice between sites. Consequently, my study finds that to navigate the continuity and disjuncture between sites, the newcomers switch the dominant mode of learning to progress as legitimate peripheral participants.

Hence the following sections focus on the dominant mode of learning in each episode of transition connecting (6.1.1), disconnecting (6.1.2) and reflecting (6.1.3). Furthermore, the section highlights how switching between modes of learning help newcomers draw, redraw and refine distinctions during the process of transition. Figure 2 below shows the visual representation of the episodic process of transition.

Transitioning as an Episodic Process

Site 1 - CCTC   **Site 2 - SHIP**

Staring as Newcomer Episode 1 - Connecting Between Sites of Practice through Connective Visions and Drawing of Distinctions

Episode 2 - Disconnecting From Previous Site of Practice - Re-Drawing of Distinctions -Transition of Identity from CCTC to Prospective Officer

Episode 3 - Reflecting on Similarities and Differences - Refining of Redrawn Distinctions

Becoming Fuller Participant

Figure 2 Transitioning as an Episodic Process

The figure above shows the three points of disjuncture in the process of transition experienced by the newcomers which leads them to shift dominant mode of learning. Therefore, it demonstrates the episodic process of transition. The following sections subsections develop the concepts of

making connections, making disconnections and reflecting as modes of learning in the process of transition.

6.1.1 Becoming a Legitimate Peripheral Participant through Making Connections

Findings from the study show that, during the first phase of movement between sites, newcomers learned connections between the sites of practice, which allowed them to redraw and refine distinctions (Tsoukas & Vladimirou, 2001; Tsoukas, 2009). The key insight developed in this section is that when newcomers undergo the process of transition at two sites, they learn to draw distinctions through making connections to the practices of seafaring. There are three ways through which newcomers make connections to the practices of seafaring:

1. Theory-Practice Connections
2. Past-Present-Future Connections
3. If-Then Connections

These connections are made through dialogical, material and spatiotemporal apparatus at the initial site of practice, which helps newcomers to envision the practices of seafaring through forming *connective visions.*

Connecting to the practices of seafaring helps newcomers draw distinctions about correct and incorrect courses of action. Drawing distinctions was defined in Chapter 4 per Tsoukas and Vladimirou (2001) as splitting the world 'this' and 'that'. Tsoukas & Vladimirou (2001) define distinctions as grounded in language. Seirafi (2013: 41) developed Tsoukas & Vladimirous's work to state that understanding is created through making

'syntactical distinctions (words, visuals, explanations in textbooks, computerised information)', 'semantical distinctions (what does this trace on the x-ray mean? what is a customer?)' and pragmatic distinctions (how to look at the x-ray, how to act upon specific customer attributes)'. My study focuses on distinctions about courses of action available to newcomers when they perform those actions at another site, which is perceived as the pragmatic (action oriented) dimension of distinctions (Seirafi, 2013). From a practice perspective, it can be noted as the ability to take a particular action, to do X in Y situation and not Z, where X and Z are the possible courses of action. This involves a sense of knowing 'what comes next' (Nicolini & Monteiro 2017: 113). According to Tsoukas and Vladimirous (2001: 976), knowledge is the ability to draw distinctions, they state, 'knowledge is the individual capability to draw distinctions, within a domain of action, based on an appreciation of context or theory, or both.' My findings show that newcomers need to draw distinctions within a domain of actions (here referred to as a site of practice) by connecting with another domain of action. Additionally, my findings show that drawing distinctions can take place prior to physical immersion in practice where distinctions are used in-situ (Ribeiro, 2012). In the subsequent subsections, I first develop the concept of connective visions and then demonstrate that making connections through connective visions allows newcomers to draw distinctions in three ways:

1. It legitimizes certain courses of action for the newcomers
2. It allows the newcomers to get a sense of potential trajectories
3. It helps newcomers envision the potential consequences of courses of action

6.1.1.1 Making Connections through Connective Visions

My study advances that newcomers form connections to practices at another site through *connective visions.* Connective visions refer to the

activity of envisioning the connections between sites of practice through the use of dialogical and material apparatus. Envisioning here refers to the act of visualizing or imagining aspects of practice that enable newcomers to form connections. Wenger (1998, 2000) notes imagining as a mode of belonging in practice and states that it is a way of 'expanding our self by transcending our time and space and creating new images the world and our selves' (Wenger, 1998: 176). My study develops this notion of imagining by focusing on how newcomers use dialogical and material apparatus to envision aspects of practice *to make connections* to the site of practice where they will participate as fuller participants.

Connective visions help newcomers form the connections between sites of practice and learn domain-specific aspects of seafaring. Consequently, connections are made by practitioners (in this case newcomers) which is different from Wenger's (1998) rendition of practice as connection where he reflects on boundary practices, overlaps and peripheries as connections (Wenger, 1998: 113-117). My study focuses on the process of making different kinds of connections through connective visions rather than connections as existing in practice (Wenger, 1998). Using dialogical apparatus (technical language, humor, narratives) and material apparatus (tools, technologies, and simulations) allows newcomers to form connective visions about life and work at sea.

Newcomers form connective visions through using the maritime language within the training center, and hearing narratives and anecdotes during class. Narratives have been analyzed as an important learning tool from a practice perspective (Brown, Collins & Duguid, 1989; Orr, 1996; Østerlund & Carlile, 2005). My findings show narratives and anecdotes help newcomers envision the shipboard practices and what life and work at sea is like. For example, in the practices of seafaring, through anecdotes, such as Capt G joking that cadets get lost in the ship frame, newcomers learn the

spatial territories and temporal rhythms at sea. Through their participation at CCTC the cadets learn to use and follow helm orders, to speak through closed loop communication on board and to use English as it is the lingua franca on board. Importantly, narratives and technical language help newcomers envision shipboard practices and make connections to them. While, learning technical language echoes Ribeiro's (2012: 373) notion of linguistic socialization as,

> 'the means with which to develop a domain-specific conceptual and social understanding with regard to everything that can be talked about concerning the web of concepts, practices and people that constitute a field.'

My study advances that linguistic socialization is particularly important because it helps form connective visions. Accordingly, technical language and narratives seen here are dialogical apparatus through which newcomers form connective visions which help them connect to the practices on board. For example, findings from my study show that through listening to old-timer narratives at CCTC, or reading old-timer stories in nautical publications the newcomers started envisioning what they will be able to do as officers in the future. Through envisioning these possibilities, the cadets form connections between their present participation at CCTC and future work practices. Consequently, they start drawing distinctions about the courses of action that will put them on an inbound trajectory (Wenger, 1998).

As reviewed in chapter 2, practice-based literature has emphasized the role of materials in practice (Suchman, 2007; Orlikowski & Scott, 2008; Orlikowski, 2009) as well as the role of materials in learning (Hutchins, 1995; Johri, 2011). Additionally, the role of artifacts as boundary objects or spanners is well noted in literature (Wenger, 1998; 2000; Carlile; 2002; 2004). Furthermore, how newcomers progressively use tools is a part of most studies of situated learning (Lave & Wenger, 1991; Marchand, 2008;

Lave, 2011). These studies focus on how newcomers progressively learn to use materials through participation within a single site of practice. My study finds that newcomers can start learning about the tools and technologies used in the trade prior to physical immersion in the site of the trade through material socialization. That is, newcomers are able to familiarize themselves with the materials commonly found on board, such as the deck and navigational equipment that they will interact with on board during simulation training through observation.

Dialogical and material apparatus are used as ways to form connections between the sites of practice. Connecting through using dialogical and material apparatus is important for learning through LPP because through making these connections newcomers start drawing distinctions about the correct and incorrect courses of action, which enable them to start understanding what being a legitimate peripheral participant in the practices of seafaring entails. Accordingly, newcomers learn about dialogical and materials elements of the practices of seafaring as peripheral members of the community, through interaction with old-timers, rather than as outsiders (Collins, 1999). These pieces of apparatus allow newcomers to form connective visions between the sites of practice.

My study develops the connecting through connective visions as a new concept because forms of immersion in practice developed in previous literature do not account for connecting as a form of immersion. Connecting through connective visions is different from physical contiguity (Ribeiro, 2012) or proximal participation (Chan 2013, 2015) which describes 'proximity to the practices of a domain that falls short of active involvement or 'hands on' experience' (Ribeiro, 2012: 372). This is because, as my study shows, newcomers make connections to a site of practice (ship) through their participation in another site of practice

(CCTC), hence physical non-participant presence on board a ship is not required for making connections.

Connecting is, also, more than linguistic socialization alone (Ribeiro, 2012) where 'linguistic socialization stands for immersion in the relevant linguistic community alone (Collins and Evans 2007)—in other words, talking to experts far from the site in which their activities are carried out' (Ribeiro, 2012: 372). This is because connecting involves forming connective visions using materials in addition to language and it requires the act of envisioning connections, that is, doing as well as saying. Furthermore, connecting requires the use of visual cues that are not learned solely using language.

Additionally, connecting through connective visions cannot be thought of as self-study (Ribeiro, 2012), where self-study is: 'self-study is the entrance of a person into a new technical domain without interacting with its experts (e.g. only by reading)' (Ribeiro, 2012: 372). This is because while connective visions use dialogical and material apparatus, these are used in conjunction with old-timers to form connections. Old-timers are able to help newcomers form the connective visions between the sites of practice and explain nuances of domain specificities which are not possible to glean through self-study.

Furthermore, connecting cannot be considered as physical immersion (Ribeiro, 2012) where 'physical immersion denotes 'hands on' practice (Collins and Evans 2007)—the utmost immersion to become a practitioner' (Ribeiro, 2012: 372). This is because while CCTC is a site of practice, where newcomers are physically immersed, the participation at CCTC is aimed at preparing them for physical immersion on board the ship. Forming connective visions allows newcomers to envision the links to the practices

on board, a site of practice where they will be physically immersed in the shipboard practices to become practitioners.

6.1.1.2 Legitimizing Courses of Action through Theory–Practice Connections

Newcomers make connections between the theory they are learning at the training center and the use of this theory in practice on board the ship. Making theory–practice connections between sites legitimize certain courses of action for newcomers through making why-how connections. Knowing why can be seen as a way to help newcomers prepare for transition to the second site of practice because they are able to use these theories across contexts when they go on board. This is tied to Tsoukas & Vladimirou's (2001) notion of appreciation for theory or rules that allow participants to exercise judgement across contexts. Bell (1999: ixiii cited in Tsoukas & Vladimirou, 2001: 979) states, 'theory allows one to take a finding and generalize from any one context to another context.' Tsoukas and Vladimirou (2001: 979) link this to knowing through exercising judgement and note that the 'individual capacity to exercise judgement is based on an appreciation of theory.' Through learning the theoretical principles of seafaring the newcomers start to learn the reasoning behind certain practices on board which, in turn, allows them to learn the rules that they can apply across contexts. Due to an ability of theory to be applied across contexts, physical immersion in a site where the theory is being practiced is not required for learning theory. What is required, as my findings show, is the access to old-timers who are able to emphasize the domain specificity of the rules, as seen in the findings through the old-timers' sharing of anecdotes, and stories, which helps make connections between the sites of practice.

Legitimizing certain courses of action through an emphasis on knowing why helps newcomers understand the rationale behind the rule. If drawing distinctions is the ability to make distinctions between 'this' and 'that' (Tsoukas & Vladimirou, 2001; Seirafi, 2013), knowing why helps newcomers understand why they need to take a certain course of action and not another, that is, the rationale behind the rules, where rules are understood as the correct and incorrect ways of doing negotiated by the community. This is related to Gherardi, et al.'s (1998) notion of learning as practical accomplishment. They state, the goal of learning is 'to discover what do to; when and how to do it, using specific routines and artefacts; and how to give, finally, a reasonable account of *why it was done'* (Gherardi, et al., 1998: 274; emphasis added). My study adds that connecting theory and practice helps newcomers give reasonable accounts for why something was done in a certain way, that is, the rationale behind the rules.

6.1.1.3 Learning Potential Trajectories through Past-Present-Future Connections

My findings show that through their engagement with the practices at the training center, newcomers are making these connections between the past-present-future practices. This is demonstrated well in the quote, where the newcomer speaking of the old-timers, notes, they '*already did something like what we are going to experience'* (I12-C10). This shows the connection of the past – the old-timers' experiences, with the present – in the training center, with the future – what the newcomers will experience. These connections help newcomers draw distinctions about potential courses of actions because they can envision what is required to be on the trajectory towards fuller participation, which reduces the uncertainty of what to expect when they transition to the next site of practice. Making past-present-future connection and the drawing of distinctions regarding

future trajectories contributes to the literature on situated learning because it shows newcomers start becoming members of the COP through making these connections and drawing distinctions. That is, through making past-present-future connections, they start associating with the history of the practices, to the future of those practices, and they start understanding the courses of action required for them to be future practitioners.

That practices have a shared history has been well noted in the literature on situated learning and practice-based studies (Lave & Wenger, 1991; Lave, 1993/ 2010; Wenger, 1998; Kemmis et al. 2014; Grootenboer et al., 2017). However, these studies have not focused on how newcomers start connecting with the shared history of practices. My study shows how these connections are made and it further advances that these connections can be made at a site of practice that is different from the site where the shared history is enacted in practice. Additionally, scholars have noted that the past and future of practices is produced in the present (Macintyre, 1985; Kemmis et al., 2014; Shotter & Tsoukas, 2014). For example, Macintyre (1985: 221) notes,

> 'What I am is in key part what I inherit, a specific past that is present to some degree in my present. I find myself part of a history and that is generally to say, whether I like it or not, whether I recognize it or not, one of the bearers of a tradition.'

To participate in practices is to become part of the history or traditions of the practice. While Macintyre talks about becoming a part of the tradition, he does not focus on how newcomers make connections to the tradition of practices. My study demonstrates how, through the use of dialogical and material apparatus, newcomers start to form the connections between practices in which they are participating in the present to the practices at another site which were or will be performed in the future.

Practices are future-oriented because they are always in a state of transformation and becoming. This is exhibited quite nicely through the process of LPP in a COP. Lave and Wenger (1991) note that newcomers and old-timers are inherent in conflict because it is the role of the newcomer to displace the old-timers and the role of the old-timers to allow the change to ensure the continuity of practice. However, Lave and Wenger do not show how newcomers make connections to future practices. My study demonstrates how, through forming connective visions, newcomers are able to envision future practices. This envisioning helps them connect to future practices and, consequently, learn to draw distinctions about their future trajectories.

The confluence of the past and future of practices is exhibited also through Wenger's (1998) notion of trajectories. Wenger (1998: 154-55) notes that identities are 'fundamentally temporal' and speaks of the notion of 'inbound trajectories' where newcomers' identities are invested in their future participation, even though their present participation might be peripheral. Furthermore, he states, 'as trajectories, our identities incorporate the past and the future in the very process of negotiating the present' (Wenger, 1998: 154-155). While Wenger conceptualizes trajectories, he does not demonstrate how newcomers connect to the inbound trajectory. The findings from my study demonstrate this connecting and they show how newcomers use dialogical and material apparatus to make these connections to their future trajectories through forming connective visions. Previous literature has shown that practices are past- and future-oriented and that newcomers become a part of the past and future through participation. However, it has not focused on how newcomers make connections to the past–present-future practices. My study provides empirical evidence which shows how newcomers make past-present-future connections to the practices of seafaring.

6.1.1.4 Learning Consequentiality of Actions through Making If–Then Connections

My findings show that another key way through which newcomers make connections is through if-then connections, which link shipboard tasks with potential courses of action. If-then connections can be thought of simply as - if the situation is X then do Y and not Z because the consequences of Y are positive and the consequences of Z are negative. For example, in chapter 5 there was a description of the photograph of a hogging ship (where the ship bends in an inverted U shape due to incorrect cargo loading). In terms of the if-then connection, this can be perceived as - if loading cargo, then follow the correct cargo loading procedures because the consequences of not following the correct procedures lead to damaging the ship's structure. Making these connections helps newcomers draw distinctions about the courses of action because they allow newcomers to understand the consequences of action.

The importance of consequentiality of practices to social life has been noted in previous practice-based literature. Feldman & Orlikowski (2011: 4, emphasis in original) state 'practice theory argues that *everyday actions are consequential* in producing the structural contours of social life.' They further state how consequentiality has been interpreted by practice theorists such as Bourdieu (1990) Giddens (1984) Schatzki (2002) and Macintyre (1985) as ways through practices as social actions are produced by and reproduce social structures, which is seen through the correct and incorrect ways of doing in practice (Rouse, 2001; Nicolini & Monteiro, 2017). Unlike the above mentioned studies, my study focuses on consequentiality on a more micro level. It focuses on how newcomers start understanding the consequences of actions within practice by making if-then connections. Making if-then connections is important for newcomers because through understanding the consequences of actions the newcomers start to

understand how they can perform as competent practitioners in particular situations within a site of practice.

Going back to the example of cargo loading, loading the cargo (the action) has the potential consequences that it has been loaded correctly and therefore the ship is able to carry the cargo to the required destination, or it has not been loaded correctly and can cause accidents or damage to the crew or ship. The potential consequences of the actions can help understand why there are correct and incorrect ways of doing (Nicolini & Monteiro, 2017) as negotiated by the members of the community of practice. Through learning the consequences of the courses of action the newcomers learn to draw distinctions between the correct and incorrect courses of action, which is important for their progression as legitimate peripheral participants because they can understand what is required for a competent performance. Although, Shotter & Tsoukas (2014) raise a related point when they state that an appropriate response in given situation,

> 'is not so much a question of comparing alternatives in deciding what to do – indeed, no such set of clear alternatives is in fact available to us to choose among (see Weick, 1996) – as being spontaneously responsive to the consequences of each move we are considering. The actions we are resolving to follow emerge from within the landscape of possibilities in the course of our explorations within it' (Shotter & Tsoukas, 2014: 389-390).

My findings show that at least some of the potential consequences can be realized outside the given situation. Within a COP, given the historicity of practices the community has some shared knowledge about the potential consequences of certain courses of action which give rise to rules such as the COLREGS or ways of correctly loading the cargo. During their training the cadets learn the potential consequentiality of actions at sea. Furthermore, they learn the consequences of their actions not simply on the ship, but also the wider nexus of practices that make up the industry.

Hence, through forming connective visions about the consequences of actions, newcomers learn the consequences of actions at another site of practice. This contributes to situated learning and practice theories because it shows why connective visions are an important aspect of becoming legitimate peripheral participants, because understanding the consequences of actions allows newcomers to draw distinctions about the correct and incorrect courses of actions.

6.1.2 Becoming a Legitimate Peripheral Participant through Disconnecting and Redrawing Distinctions

Findings from the study show that when cadets move from the training center to the ship, they learn the differences between aspects of the practices that they learned during the previous episode of transition. As such, the second episode marks a disjuncture in the process of transition that requires the newcomers to go from making connections to making disconnections between the sites of practice. Consequently, in this episode of the transition, the dominant mode of learning shifts from connecting to disconnecting. The key insight developed in this section is that because of the differences between ways of doing between the two sites, newcomers need to disconnect with the previous site of practice. As newcomers start to disconnect from certain aspects of the practices at a previous site, they start to redraw distinctions, and start transitioning in terms of identity. Tsoukas and Vladimirou (2001) give the example of a medical student learning to read x-rays and state that through engaging in dialogue with old-timers, newcomers revise and refine their understandings. My study finds that the 'revising' of distinctions also comes from practically experiencing differences in ways of doing, which need to be reconciled if newcomers to progress through the process of transition. As such, four key points are expanded in the subsequent sections:

1. Newcomers need to legitimize themselves differently to the groups at both sites

2. Differences in ways of doing between the sites lead to disconnecting from the previous site

3. Disconnection from the previous site of practice leads to the redrawing of distinctions

4. The redrawing of distinctions, in turn, leads to a transition in identity

6.1.2.1 Legitimizing to Whom?

One of the important findings of the influence of movement on the process of transition is that looking at LPP in multiple sites of practice, reveals that there are multiple groups of old-timers within one COP. Lave and Wenger (1991), in their work, state that a COP does not have a central core or a designated periphery. However, they not do provide an in-depth analysis as to what this means for a COP. Subsequent studies (Wenger, 1998; Wenger & Snyder 2002) have focused on what core members of a COP do, however, they look at the core as a single entity. Borzillo, Anzar and Schmitt (2010) who, in their work, look at the transition from periphery to core also focus on the core as consisting of a single group of members. Hilderth, Kimble and Wright (2000) concentrate on knowledge sharing across a distributed international environment. In their study, they identify that a community of practice can have multiple 'co-located' cores (Hilderth, Kimble & Wright, 2000: 32). However, they do not go into details of what it means to have multiple cores, especially the influence of this on the peripheral members.

My study advances the concept of the co-located cores by stating that a community of practice can have multiple groups of old-timers, who engage

with the practices of the community in different ways. The findings show that having multiple groups of old-timers critically influences the process of transition because the main goals or objectives of the two groups of old-timers differ. Lave (2011) notes that the incentive of the old-timers has an impact on the newcomers' learning. My study demonstrates how the different incentives of the old-timers lead to differences in participation at the two sites. These differences in participation, in turn, influence the process of transition because newcomers need to show different forms of skillfulness and find different means of participating, which, in turn, adds to the differences experienced between the two sites. Hence, it deepens the reflection on the process of transition and brings out the contestations and conflicts that arise through movement between sites of practice as newcomers legitimize themselves to different practitioner groups.

Findings from my study indicate that the primary old-timer objectives shape and are shaped by the practices in which they engage. Consequently, the primary objectives influence the newcomers' transition because in navigating the differences in practice the newcomers start disconnecting with the previous site of practice. This means, the newcomers are disconnecting not only from previous experiences of participation, they are also disconnecting from the previous group of old-timers. Disconnecting at this juncture becomes important for the LPP process because, through disconnecting, the newcomers start making new connections to the current site of practice. This involves acting as competent practitioners per the notion of the competence negotiated at the current site, in order to be perceived as legitimate members of the community.

6.1.2.2   Navigating Differences and Disconnections

Lave & Wenger (1991) and Gherardi et al. (1998) note that learning takes place through progression and regression as newcomers learn new tasks.

Gherardi et al. (1998: 286-287) explain it well. They note that when newcomers are given a task, this involves observing and then participating. During this process support from the community during the task gradually reduces. When newcomers move to another activity, the pattern is repeated and the support is provided again. Accordingly, they describe learning as the back and forth movement between support and autonomy (Gherardi et al., 1998). My study develops this line of reasoning across sites of practice. That is, when newcomers move from one site of practice to another, they experience the continuity and differences between the sites of practice. In experiencing the differences, such as differences in following procedures, differences in calculations, differences in the prioritization of practices, they undergo the process of regression and have to learn these new ways of doing as novices in the new site of practice. When this regression happens, my study finds that newcomers start disconnecting from the previous site of practice in order to engage with the new site of practice.

As the findings in chapter 4, section 4.2 have demonstrated, disconnecting from the practices at the pervious site is noted in three ways – differences in old-timer objectives at the two sites meant that the newcomers needed to find new ways of participating in order to legitimize themselves to the practitioners at the new site, consequently, they started to disconnect with the practices and practitioners at the previous site. Differences in old-timer objectives also meant that there were different expectations of forms of skillfulness at the new site of practice. While the previous site emphasized theoretical learning, the new site practice privileged task-based competence in forms of skillfulness hence there was emphasis knowing how instead of knowing why. This, in turn, led the newcomers to disconnect from the practices at the previous site in order to demonstrate skillfulness at the new site of practice. Differences in ways of doing on board the ship, such as different ways of performing procedures, maneuvers and calculations leads to learning to perform tasks in a new way such that the tasks are seen as

competent performances which requires disconnecting from the previously learned tasks. Through disconnecting from the previous site of practice, newcomers start learning to switch and adapt to new experiences.

The notion of disconnection has been hinted at in Tanggaard's (2007: 462) work where he notes, 'It may, in fact be quite constructive to disengage discursively from trade vocational school if one is trying to connect oneself to the workplace and the values at stake in this other practice.' Also, in the work of Hodges (1998: 273) who talks about the notion of nonparticipation and states 'nonparticipation describes conflict in the space between activity and identification, where there is a moment of multiplicitous identifications or identificatory possibilities.' My study develops the notion of disconnection in greater depth. It shows how newcomers start disengaging with previous practices and, therefore, previous identities through their participation at the new site. It links the notion of disconnecting with legitimacy because newcomers disconnect from the previous site to legitimize themselves in the new site of practice. Additionally, my study demonstrates why newcomers need to disconnect from the practices at the previous site to form new connections with the new site of practice. The notion of disconnecting builds on the concept of connecting in the previous section and my study argues that to undergo the process of transition, both modes of learning are required. This is because newcomers need to form connections between the sites to gain an understanding of potential courses of action and they need to disconnect from previous practices to extend their understanding of potential courses of action; as the subsequent section shows, both connecting and disconnecting, then allow newcomers to navigate the process of transition.

6.1.2.3 Redrawing Distinctions through Disconnecting

My study finds that when newcomers start disconnecting with the practices and practitioners at the previous site, they start redrawing distinctions. The notion of redrawing distinctions echoes Seirafi (2013: 35) who builds on Tsoukas and Vladimirou's (2001) example of the student learning the x-ray and argues that the student, through making new distinctions, is able to participate 'in the construction of the ontological field he shares with others and which enables him to act differently.' Furthermore, drawing from a practice-based perspective Tsoukas (2009: 293) maintains, 'to be a member of a practice, therefore is to experience one's situation in terms of *already* constituted distinctions' (emphasis in original) which are mutually negotiated by the community.

Through zooming out across sites of practice, however, my study advances that the old-timers at the second site of practice have negotiated a different set of 'already constituted distinctions'. These already constituted distinctions are seen through the differences in ways of doing and differences in objectives found at the new site. This means that in order to participate as competent practitioners in the new site, the cadets start to re-draw some of their previously drawn distinctions. This contributes to practice theory as well as situated learning, because it shows that sites of practice, belonging to the same COP can have differences in already drawn distinctions. Furthermore, it shows that when newcomers encounter differences in the already constituted distinctions between the two sites of practice, they are forced to reconcile the differences, which involves disconnecting with the distinctions drawn at the previous site and re-drawing distinctions in order to participate (act differently) in the new site of practice. While disconnecting is the process of disassociating, redrawing differences refers to changing the previously held notions of correct and incorrect courses of action to form new distinctions about courses of action. Consequently, my study shows how newcomers navigate differences in

distinctions between sites, through redrawing previously drawn distinctions, in order to engage in the new site of practice.

To elaborate, at the previous site of practice, the newcomers learn distinctions relating to courses of action – do this, not that. While some of these distinctions hold, others do not – for example, one of the interviewees notes, '*Of course, COLREG is always followed. Safety training, yeah, usually the training is just on paper*' (I13-O4). In encountering these differences the newcomer is confronted with a new or revised set of already constituted distinctions (Tsoukas, 2009) that have been negotiated by the community at the new site of practice. When confronted with a new set of distinctions, such as not sounding the horn in all restricted visibility conditions or not calculating the ETA in the same way, the newcomers have to disconnect from the previous site, which involves assessing the previously drawn distinctions in light of the new distinctions being practiced on board.

Tsoukas (2009: 942) speaking of the dialogical process of developing new knowledge, cites Bell (1999, p. lxiv) who argues that 'judgement arises from the self-conscious use of the prefix re: the desire to re-order, to re-arrange, to re-design what one knows and thus create new angles of vision or new knowledge for scientific or aesthetic purposes.' Assessment, here, refers to a form of judgement - redrawing. The assessing of distinctions leads to the re-drawing of distinctions if the newcomers are unable to reconcile the differences between the old and the new distinctions, or if they assess that the new distinctions are better suited to participation in the practices at the new site. My study demonstrates why there is a need to redraw distinctions when newcomers encounter differences, because they need to legitimize themselves to the members at the new site of practice. Furthermore, it shows, empirically, how newcomers, through disconnecting from the previous site, start redrawing the previously drawn distinctions.

6.1.2.4 Transition in Identity through Redrawing Distinctions

As reviewed in chapter 2 section 2.2, Wenger (1998: 155) states, trajectories are ways of 'sorting out what matters and what does not, what contributes to our identity and what remains marginal.' Trajectories, per Wenger's (1998) understanding are linked both to the process of becoming and to identities which are inherent in the process of becoming (Handley et al., 2007; Gherardi, 2016). Following from the argument above that moving between sites of practices leads to disconnecting and re-drawing distinctions, one can state that disconnecting also shifts the trajectory that the newcomers are on. This is because, if trajectories are ways of sorting out what matters and what does not, through re-drawing distinctions, newcomers are revising also what matters and what does not in this site of practice; hence, the trajectory changes from being CCTC trainees to becoming prospective officers.

Prior to their first sea-service period, the identity of the cadets is tied to the practices at the training center – their identity is that of a trainee. However, through learning in practice at sea, they begin to engage with the question of what it means to be a seafarer. Hence, through the movement between sites of practice, the cadets start the process of identity transition, not only from newcomers to full participants but also from trainees living ashore to seafarers at sea. In this sense, there is a shift in terms of identity because identity is formed through practice (Lave & Wenger, 1991; Ibarra, 2004; Handley et al., 2007). Hence, the participatory changes in practices means that the newcomers are starting to change their identities because their previous identities were linked to the participation at the previous site of practice. Because of their periods of participation at two sites of practice, the newcomers embody a dual identity that of a trainee and a practitioner (Tanggaard, 2007). The notion of a dual identity also finds grounding in the work of Ibarra (2004: 15-16) who focuses on identity transition in career change. She notes, 'forging new relationships and connecting to new

networks, therefore, promotes the creation of new possible selves and dilutes the strength of old ties within which established identities were previously negotiated'. My study adds that this change in identity is made possible through disconnecting from the previous site of practice and redrawing distinctions about the courses of action.

As Pyrko et al. (2016:4) maintain, 'in the spirit of this approach, to put it simply, knowledge is potentiality to act, while knowing is using what one knows in practice.' While learning in the training center practice forms connective vision of the practices of seafaring, learning in practice allows the cadets to engage with the specificities of daily work at sea. Through this, they are able to more fully comprehend what it means to be a seafarer, hence both the performances and the identities start to shift towards what it means to be a seafarer per the community on board. Mack (2007: 382) puts is well when she states,

> 'These seafarers seem to find it both comic and tragic that so much of the 'new' educational system focuses on academic knowledge and classroom training; however, they admit that advancements in technology and increases in safety and security often require a somewhat different approach, such as the use of simulations, prior to sea voyages. Still many question how a person can get a feel for the 'sea life' without first getting their sea legs.'

For the cadets before their first sea voyage, their vision of life and work at sea is based on videos, photos, simulations, and stories that cannot fully capture 'sea life.' However, after their sea-service, and getting their 'sea legs' they have a sense of what becoming a seafaring practitioner means. The process of disconnection and identity-shift is important for the process of transition because, while newcomers engage in the practices at multiple sites in this stage of the process of transition, they will be participating as fuller participants at one site of practice – the ship. In this sense, what this

episode shows is the shift in trajectory from the outbound trajectory (Wenger, 1998) of the training center to the inbound trajectory (Wenger, 1998) on board. Consequently, my study develops how newcomers start shifting between trajectories during the process of transition.

6.1.3 Becoming a Legitimate Peripheral Participant through Reflecting

Findings from the study show that when newcomers come back to the training center after their sea-service, the dominant mode of learning switches from disconnecting to reflecting on the similarities and differences between the participation at both sites. Reflecting, here, is seen as a 'practice of inquiry that is concerned with past present or future phenomena' (Jordan et al., 2009) which involves some form of assessment or evaluation of one's experience either in the past or in the present. Building on Schön's (1983) work on knowing-in-action and reflecting-in-action and reflecting-on-action theorists have long assessed the relationship between reflecting and learning (Cunliffe & Esterby-Smith 2004; Yanow & Tsoukas, 2009; Keever & Treleaven, 2011). The switch to reflecting as a mode of learning takes place when newcomers have previous connection and disconnections between the practices at the two sites. The key insight developed in this section is that through their movement between sites the newcomers engage in a dialogical process of developing new insights in practice (Tsoukas, 2009). Through this, the study finds that reflection in action and reflection on action (Schön, 1983) happen simultaneously during the third episode of transition which helps the newcomers refine their distinctions further. As such the main points developed in the subsequent sections are:

1. During the third episode, there is a shift in dialogue which creates new insights in practice for the newcomers
2. The dialogical process reveals that newcomers engage in reflecting-in-action and reflecting-on-action simultaneously

6.1.3.1 Refining Distinctions through a Shift in Dialogue

Through the movement back from sea to the training center, the newcomers engage in the practices at the training center through the perspective of their experiences at sea. The sea-time experience allows them to relate the learnings between the sites. Through relating the learnings, the newcomers are able to engage in a dialogical process of developing insights into practice. In the first episode of transition the conversation was predominantly one sided, that is, the old-timers would state the explainable aspects of the practices of seafaring. They told the cadets the correct and incorrect ways of doings as understood by them. The cadets at this point have no frame of reference with which to engage in a productive dialogue (Tsoukas, 2009). In the third episode of transition if the old-timers say something that is different to what the cadet has experienced on board, the cadets question the old-timers on the differences, questions such as why is it different, or why don't we do it the way they do it on board? These questions create a follow-up dialogue where the old-timers at CCTC have to account for the differences or explain the differences; this, in turn, allows the newcomers to develop new insights into the practice.

The dialogical process of developing new insights is similar to Tsoukas' (2009) conceptualization of dialogue as a means for knowledge creation. He states that dialogue is productive when the participants engage relationally with each other. My study shows that newcomers are able to engage in productive dialogue through the movement between sites of practice, which allows them to have a frame of reference through which to

question the discontinuities in practice, which was not possible in phase 1. Consequently, the study finds that through movement between sites of practice, there is a shift in the dialogue from the old-timers at CCTC asking newcomers the "why" questions, to the newcomers asking the old-timers the "why" questions. When the old-timers answer the newcomers' why questions, the newcomers are able to refine their distinctions about the courses of action, for example calculating the ETA by using the total time difference rather than the progressive time difference (Chapter 4 section 4.3). This is similar to Tsoukas & Valdimirou's (2001) example of the student studying the x-ray where the student is able to review or refine her distinctions through engagement in dialogue. My study finds that the refining of distinctions takes place when the dialogue shifts to the newcomers asking the why questions, because through asking these questions the newcomers and old-timers are engaging in a productive dialogue to create shared understandings of practice (Tsoukas, 2009). This is important for the process of transition because it signals the shift of the dominant mode of learning from disconnecting to reflecting.

6.1.3.2   Reflecting In and On Action Simultaneously

Through the dialogical process of developing new insights into practice, the newcomers switch to reflecting as the dominant mode of learning. Schön (1983: 68) theorizes reflecting-in-action as the process 'when someone reflects-in-action, he becomes a researcher in the practice context. He is not dependent on the categories or established theory and technique, but constructs a new theory of the unique case.' Furthermore, he describes reflection-on-action as 'we reflect on action, thinking back on what we have done in order to discover how our knowing-in-action may have contributed to an unexpected outcome' (Schön, 1983: 26). Reflecting-on-action is the notion that an individual can 'reflect back on something that has transpired' (Yanow & Tsoukas, 2009: 1340) and this requires stepping back to 'ponder' (Raelin, 2001: 11). Reflecting-in-action is the notion that

reflection takes place '*in the midst* of action' (Yanow & Tsoukas, 2009: 1340, emphasis in original). Reflection and its role in learning has gained prominence in organizational theory as a means to explore what reflection is (Cunliffe & Esterby-Smith, 2004; Høyrup, 2004) and how reflection in action is fostered within organizations (Yanow & Tsoukas, 2009; Jordan, 2010; Keevers & Treleven, 2011). These studies distinguish between the notions of reflection on and in action through the timing of when the reflection happens. Furthermore, they all agree that reflection happens when there is some break-down (Yanow & Tsoukas, 2009), surprise (Schön, 1983) or disruption (Weick, 2003) that occurs in order for reflection to take place.

My findings show that reflecting as a mode of learning happens when there is a breakdown in distinctions about the correct and incorrect courses of action. That is, when distinctions that were thought to be useful, are no longer found to be so (Gherardi, 2000). Reflection becomes the dominant mode of learning in the third episode of transition, where newcomers, through dialogue with old-timers, are able to reflect on the similarities and differences between what is being learned at the training center and what was experienced on the ships. My study argues that the dialogical process of developing new insights in practice shows newcomers engaging in reflecting in and on practice simultaneously. This is seen in the vignette on the ETA calculations when the cadets ask why they are not doing it as they would on the ship (reflection in action) and when the cadets compare sea-service experiences with each other and note the differences (reflection on action). For reflection in action and on action to occur at the same time, newcomers need have gone through the first two episodes of transition, the connecting and disconnecting, to experience the continuities and discontinuities between the two sites of practice.

My study develops the concept of reflecting as a mode of learning in two ways. First it shows that reflecting in and on action need not be separate activities, they can occur simultaneously. Reflection in and on action simultaneously is important for the process of transition towards fuller participation because it helps newcomers refine distinctions which, in turn, allows them to have a better understanding of how to go on as fuller participants. Second, reflecting as a mode of learning occurs when newcomers go through the process of connecting and disconnecting across sites of practice. This is because, through connecting and drawing distinctions the newcomers start to gain a preliminary understanding of the practices of seafaring and what might be required of them as participants. Disconnecting is required because it allows the newcomer to navigate the differences between sites of practice and re-drawing distinctions; here, they start to develop their understanding of practices and reflecting allows them to refine these previously drawn and redrawn distinctions to develop a more nuanced understanding of practice. This progressive understanding of practices is important for the process of transition because it allows the newcomers to know how to go on as they progress towards fuller participation. Consequently, all three modes of learning are required for the newcomers to undergo the process of transition.

6.1.4 Conclusion

In sum, this section has developed the concept of transition as an episodic process through looking at how newcomers switch between modes of learning through movement between sites of practice. The first key contribution of this section is that while previous studies of LPP have shown that is it not a seamless process (Lave & Wenger, 1991; Gherardi et al, 1998; Lave, 2011), my study advances that when newcomers move between sites of practice, transition is a distinctly episodic process. The notion of transition as an episodic process contributes to the literature on

situated learning and practice-based theory because it highlights the disjuncture and shifts in the process of transition as newcomers move between sites of practice. In doing so, it shows how newcomers navigate these shifts through switching the dominant modes of learning during each episode. As such the movement between the sites creates what Fuller and Unwin (2003; 2004) would deem expansive learning. An expansive approach requires that apprentices ''travel' outside the immediate community of practice to engage in multiple membership which facilitates deeper learning, reflection and identity development' (Fuller & Unwin, 2003: 422).

My study empirically demonstrates how movement between sites of practice leads to deeper learning, reflection and identity development. Importantly, it shows that an expansive approach is not an easy one to navigate; there are conflicts and contestations between sites that need to be navigated in order to undergo the process of transition. Furthermore, my study develops that the newcomers navigate these similarities and differences between sites through switching between the dominant modes of learning. Switching between dominant modes of learning allows newcomers to draw, redraw and refine distinctions, and this facilitates the 'deeper learning, reflection and identity development' that Fuller and Unwin (2003: 422) hint at.

The second key contribution of this section is the development of the concept of connective visions as a means to form connections between sites of practice. Connective visions as the activity of envisioning connections is important for the process of transition because it helps explain how newcomers attempt to make connections within one site of practice to another site of practice, which helps them start to draw distinctions about the courses of actions required at the next site in which they will participate. Envisioning is important for forming connections because it

enables newcomers to consider possibilities which, in turn, enable them to draw distinctions. This contributes to situated learning and practice theory because while previous studies have highlighted the role of dialogical (Orr, 1996; Collins, 1999; Ribeiro, 2012) and material (Orlikowski & Scott, 2008; Orlikowski, 2009; Johri, 2011) apparatus in shaping practices and learning, my study advances the use of dialogical and material apparatus in envisioning connections through connective visions.

6.2 Negotiating Access to Participation through Proactivity

My findings show that newcomers engaged in proactivity to negotiate access to participation. While participation and performance are cornerstones of situated learning and practice theory (Lave & Wenger, 1991; Gherardi, Nicolini & Odella, 1998; Rouse, 2006; Watson, 2016) proactivity has not been focused on from a practice perspective. A practice perspective seeks to add situational, embodied, spatiotemporal, and social-material elements to the concept of proactivity. Grant & Ashford (2008: 8) define proactive behavior as:

> 'anticipatory action that employees take to impact themselves and their environments. This definition is consistent with dictionary definitions of proactive behavior as that which ''creates or controls a situation by taking the initiative or by anticipating events (as opposed to responding to them),'' and to proact as ''to take proactive measures; to act in advance, to anticipate'' (Oxford English Dictionary, 1989).'

Using Grant & Ashford's (2008) understanding of proactivity as a starting point, this section will build the concept of proactivity from a practice perspective. Proactivity, here, is treated as those performances through which newcomers act without prompt from other members of the

community. In order to negotiate access through proactivity, newcomers need to develop an understanding of the practices, to anticipate the opportunities for proactivity and take the initiative to engage in forms of proactivity - body work and spatiotemporal work. Body work and spatiotemporal work, as mentioned earlier, are forms of proactivity through which newcomers influence the old-timers' willingness to allow participation. Proactivity elicits positive responses from the old-timers which allows newcomers access to participation and develops them as legitimate peripheral participants. The visual representation of negotiating access to participation through proactivity is detailed in figure 3 below.
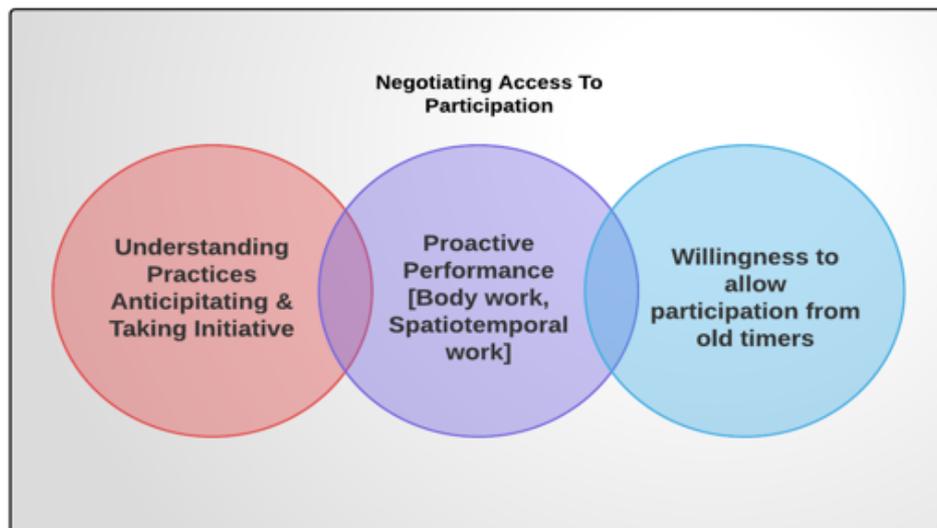
Figure 3 Access Negotiation through Proactivity

The figure above shows three parts of the access negotiation process. It shows that to negotiate access to participation, newcomers need to develop an understanding of practice, anticipate the potential for proactivity and take initiative to engage in forms of proactivity. Findings from this study develop two forms of proactivity, body work and spatiotemporal work that the newcomers engage in. This, in turn, elicits a willingness to allow participation from the old-timers. The following sections develop the three elements of the figure.

6.2.1 Understanding, Anticipating and Initiating

The key insight developed in this section is that, in order for proactivity to be successful for access negotiation, newcomers need to be sensitive to the practices of the community in which they are seeking to be full participants. The understanding of what is going on around them becomes important for proactivity because it allows the cadets to start to understand when proactivity might be appropriate and appreciated or vice versa, that is, when proactivity might not be appreciated. The findings have revealed three ways through which newcomers developed understanding of practice.

The first was knowing whom to approach, where and when. For example, when performing spatiotemporal work and going up to the bridge cadets needed to be aware of work routines, knowing when officers might be tired or nervous and hence would not provide opportunities for participation. Negotiating access to participation is only successful if the proactivity is performed in a manner that is sensitive to the ongoing practices of the community. For example, if a cadet goes to the bridge without being asked to go, but does so at a time when s/he is needed to be on the deck, s/he would still have performed prior to a prompt from others, but s/he would not be able to use that performance for access negotiation.

The second way through which cadets developed understanding of practices was through using information learned through reading nautical publications, manuals, completing the training record book on board and seeking information from old-timers about their area of expertise. The reading of nautical publications, books and using the information learned at the training center allows newcomers to develop an understanding of the rules and procedures that underpin the practices on board. While some rules are learned through participation in practice (Schatzki, 2017), to develop an understanding of the practices, newcomers also need some background understanding of the language (Collins, 1999), of the structure

of the ship (e.g., where things are located), of the materials (e.g., what is the ECDIS supposed to do) and of what the expertise of the different ranks are (e.g., what are the duties of the second officer). Hence, the connecting between sites of practice through connective visions becomes an important tool to gain the initial sense of what participation in practice on board might entail. This is because connecting through connective visions at the previous site allowed newcomers to develop a preliminary understanding of practices and the potential "correct" courses of action required for competent performance on board. While some of these change through participation on board, having a preliminary understanding of the practices of seafaring helps newcomers anticipate the potential for proactivity.

The third way through which newcomers develop understanding of practices is through making mistakes when they perform proactively. As peripheral participants and novices, while newcomers start to understand the practices of seafaring, they can make mistakes in their understanding; they can learn that procedures are done differently on board as compared to what they learned at the training center (chapter 4 section 2) or their understanding of practices is not yet refined enough for a skillful performance. The notion of learning through mistakes is supported by Davies (2005: 567) who notes that LPP is about having a 'safe environment in which to make mistakes' and that learning takes place through making mistakes. Learning through making mistakes has been theorized previously (Dreyfus & Dreyfus, 2005). My study finds that through learning from mistakes the newcomers learn to gain a better understanding of practices which means that they can anticipate the potential for proactivity.

In the findings, the example showed the cadet's manipulation of equipment (Chapter 5, section 5.1), even if done "correctly", led to reprimand by the officer because it went against safe working practices. It is important to

note that the notions of "correct" and "mistake" are grounded in the practices of the particular site. In his explanation during the interview, the refinement of the understanding is noted when he stated that he had not taken into account the responsibility of the officers for the safety of the crew on board and that in accordance with the safe working practices on board, he should have asked for permission before manipulating the equipment. This, in turn, can be linked back to the concepts of disconnecting and redrawing distinctions developed in the previous section, because, the previously made connections and distinctions, as seen in the example above, might not hold at the current site of practice, where the old-timers have a different set of already constituted distinctions (Tsoukas, 2009). Hence the cadet re-draws his distinctions about the correct courses of actions to align with those of the community on board.

Ashforth, Sluss and Harisson (2007: 9), in their study of anticipation in the context of socialization into organizations state, '*Anticipation* occurs before organizational entry and includes activities through which individuals develop expectations regarding organizations in preparation for entry' (emphasis in original). Other work, similarly, has highlighted the importance of anticipatory socialization prior to joining an organization or an occupational community (Jahn & Myers, 2015). My study focuses on the process of transition; accordingly, it focuses on anticipation as occurring after organizational entry when newcomers are moving towards fuller participation.

In Grant and Ashford's (2008) definition they equate proactive behavior with anticipatory action. However, there is something to be said about anticipation as occurring prior to engaging in proactivity, once newcomers have become (peripheral) participants in a community of practice. Thus, rather than seeing proactivity as an anticipatory action, my findings reveal anticipation as seeing the potential for proactivity based on an

understanding of practices. For example, in an interview extract (Chapter 5, section 5.1.1) an officer noted that when he was a cadet the captain did not like him to go to the bridge, so he waited until the captain finished his watch at two o'clock and then went up to the bridge to seek opportunities for participation from the chief or second officer. Here, we see the understanding of practices in knowing that the captain will finish his shift at two; the anticipation of the potential for proactive performance, through knowing that the chief or the second officer would be willing to provide opportunities for participation; and proactivity itself, through going to the bridge.

My study opens the concept of proactivity as anticipatory action to reveal the steps required to go from understanding to anticipation to action, demonstrated in figure 4 below. Newcomers need to know what is going on in practice to anticipate when to engage in proactivity. Knowing what to do is developed through an understanding of practices. Practice theory emphasizes knowing what to do next (Nicolini & Monteiro, 2017) regarding actions and how to do tasks or perform an action (Gherardi & Nicolini, 2002). Adding proactivity as a dimension to this involves focusing on when to do those actions. For newcomers, this timing of action becomes consequential because, to negotiate access to participation, they must act before they are asked/told to do so. Hence, it is the timing of the action that creates the opportunity for negotiation and separates proactivity from other doings in practice.

The next aspect required for proactivity is taking initiative, where taking initiative requires the newcomers to discriminate in-situ (Ribeiro, 2012) whether to engage in proactive performance. In the analysis, in-situ discrimination is seen through taking initiative to engage in proactive performance. Before cadets engage in proactive performances, they are thinking in terms of 'what does it make sense to do in this situation?'

Following, understanding practices and anticipating the potential for a proactive performance, newcomers must decide if performing proactively is suitable in a particular situation. Consequently, refined distinctions, discussed previously, come into play here. In taking the initiative to proactively perform, newcomers need to be able to draw situated distinctions about the correct course of action (do this or that) in a given situation – should they proactively perform or not. If they take the initiative to proactively perform, they have made the distinction that proactivity is a suitable course of action for the given situation. Therefore, proactivity becomes a way in which the drawing of distinctions is enacted in practice.

Due to the understanding of practice required for proactivity, proactivity is a form of competence. Competence is defined using Lindberg and Rantatalo's (2015: 565) definition as 'the inferred potential for desirable activity within a professional practice.' Taking a Schatzkian practice perspective, they state that competence is 'perceived contextual suitability: being a competent professional is being able to anticipate what is regarded as good and favorable activity in a certain practice and to act accordingly' (Lindberg & Rantatalo, 2015: 565). In this research competence is seen when newcomers engage in contextually suitable proactivity to demonstrate skillfulness in a manner that is acceptable to the community on board. The relationship between how understanding of practice leads to proactivity is shown in figure 4 below.
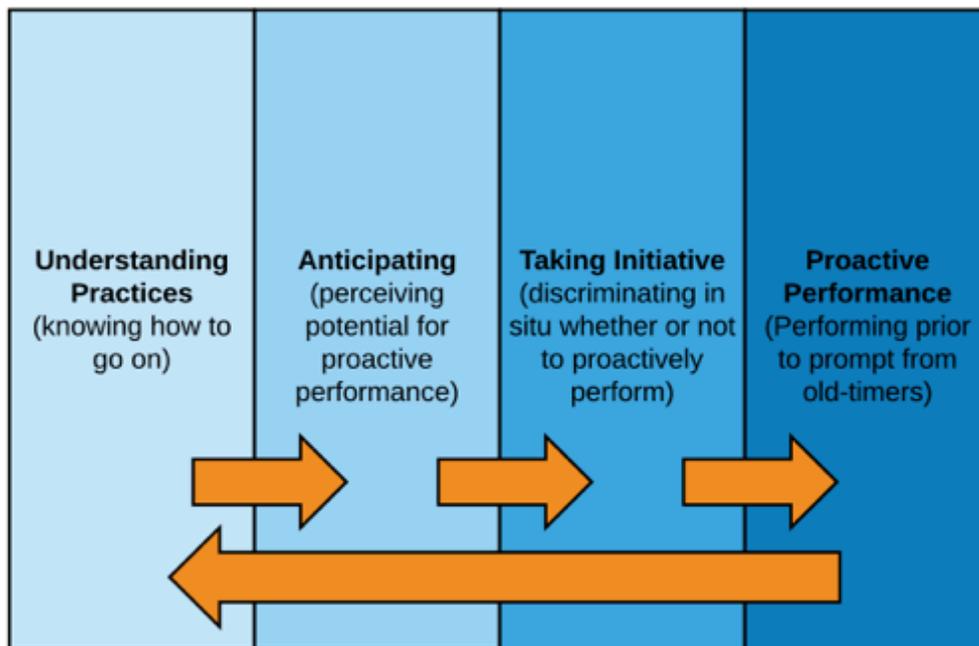
Figure 4 Deciding When to Proactively Perform

The figure above demonstrates process of engaging in proactive performance discussed in the section above. It shows that the understanding of practice enables anticipating the potential for proactivity, which allows the newcomers to decide whether to engage in forms of proactivity and the performances themselves. It also shows that engaging in forms of proactivity in turn enables the newcomers to develop an understanding of practice and go through the process again.

Looking at proactivity from a practice perspective adds valuable insight to the current understanding of proactivity as anticipatory action (Grant & Ashford, 2008) because it reveals how understanding, anticipating, taking initiative and performance come together within the practices of a community. Hence, from the understanding of the precursors to proactivity demonstrated above, one can develop a situated, practice-sensitive concept of proactivity. Additionally, it adds to the situated learning literature because it shows how the connections and distinctions developed in the previous section become actionable for negotiating access to participation.

For example, knowing whom to approach where and when is related to the past-present-future connections that the cadets made at CCTC, which helped them understand what they needed to do on their future trajectories as officers. On board ship, the past-present-future connections help cadets realize what the officer on board might be working on, where they might be, and at what time. The newcomers understand these aspects of shipboard practices because they have made connections at the previous sites between what officers might do on board (future practices). On board the ship, they are using this understanding of practices to anticipate proactivity to negotiate access to participation. As reviewed in Chapter 2 (section 2.8), it is not clear from the current understanding of the literature (Contu & Wilmott, 2003; Kellogg, 2008; Nicolini & Monteiro, 2017), how newcomers negotiate access to participation. My study finds that proactivity is a way through which newcomers can negotiate access to participation.

6.2.2 Body work

Findings showed that newcomers to the practices of seafaring engaged proactively in two ways, through body work and spatiotemporal work. This section focuses on body work and the key insight developed here is the concept of body work as engaging in proactivity and the role it plays in access negotiation.

A focus on learning in practice requires a focus on the body (Gherardi, 2006; Strati, 2007; Yakhlef, 2010; Hopwood, 2016). When learning as bodily accomplishment is looked at from the focal point of proactivity, body work can be problematized as 'how does the body enable or constrain proactivity and how does this, in turn, influence negotiating access to participation?' Accordingly, the focus, here, is on the instrumental body (Schatzki, 1996; Hopwood, 2016) where the body is used to achieve things.

Body work is defined as the ways in which newcomers proactively, that is, without prompt, enable the body to perform in situations where it might otherwise be constrained. Using this notion of body work, the body is used to negotiate access to participation. Findings revealed that there were three key types of instances on board where the body became a constraint – hard manual labor, tiredness and fear. Body work was seen when cadets proactively enabled the body to perform hard manual labor, to deal with tiredness and to cope with fear in order to seek opportunities for participation. From looking at these three ways of performing body work, three aspects are developed which help newcomers negotiate access to participation in practice:

1. Body work enables newcomers to acclimatize to physical immersion in practice
2. It signals the ability to work as a competent member of the COP
3. It communicates the newcomers' intentions to learn to the old-timers

6.2.2.1 Acclimatizing to Physical Immersion in Practice

Learning through physical immersion is a key part of LPP (Lave & Wenger, 1991; Marchand, 2008; Ribeiro, 2012). However, body work reveals, further, how newcomers acclimatize to the physical immersion in practice. The three aspects of body work, adapting to hard-manual labor, dealing with tiredness and coping with fear, show elements of acclimatizing to physical immersion in practice through proactively enabling the body to perform. Literature on LPP shows how newcomers are given progressive responsibility. For example, Marchand (2008), through his work on craft apprenticeships, shows how newcomers are given small tasks, such as cleaning the tools in order to get them used to the practices. Lave (2011), in her study of the Vai and Gola tailors, tells a similar story of how apprentices were given small tasks such as sewing the buttons on the

finished garments or attaching the zips. While these studies show the progressive embodied skillfulness of the peripheral participants, they do not show how the newcomers adapt to the tasks given to them.

When newcomers first come on board the ship, the body is a constraint because they are not used to the hard-manual labor on board. Through proactively using the body, despite the hard-manual labor (e.g., moving the pilot ladder), the physical difficulty of the task (e.g., making the pilot ladder), working within the physical environment (e.g., during a storm) and taking on difficult tasks (e.g., taking on the hardest work) newcomers proactively enable the body to participate in the practices on board. On board the ship physically adapting to carrying around fifty kilograms of wet manila rope in the form a pilot ladder might make a difference between those newcomers who are able physically to participate in the requirements of the practice and those who are not capable. Hence, the body as an enabler or constrainer of participation is more evident when studying the practices of seafaring. This is where proactivity in the form of body work provides insight.

Additionally, body work involves coping with the fear of performing (perceived) dangerous maneuvers or working with new material (e.g., navigational equipment on the bridge). In both cases fear arises from the potential consequences of incorrect actions or making mistakes. While fear itself is an emotion (Fineman, 2000) it is used, here, to theorize an aspect of body work for three reasons. First, in both cases, fear of dangerous maneuvers and fear of working with new materials, fear comes from physical doings, performing the maneuver or touching the material. Second, the anticipatory fear (Plutchik, 2003) is experienced in reaction to potential physical consequences, accidents or damage. Most importantly, fear itself causes a physical reaction, the newcomers become scared to perform the maneuvers (e.g., letting go of the rope) or to touch the

equipment. Hence because of fear the body becomes a constraint. In response to this fear, body work takes place through enabling the body to participate, despite the fear.

Work on the role of fear, for example Kish-Gephart, Detert, Treviño and Edmondson (2009) seek to understand the role of fear in the silence of organizational employees; or the role of fear as impeding knowledge sharing in online communities (Ardichvili, 2008) focuses on the ways in which fear causes behavioral responses. While silence can also be seen as a bodily function and one that potentially constrains participation, neither study focuses on the embodied response to fear. In Kish-Gephart et al. (2009) employees speak up despite fear because of anger. My study finds that newcomers cope with fear because it constrains their participation opportunities.

Newcomers proactively enable the body to perform despite fear in order to seek participation opportunities. Dreyfus and Dreyfus (2005: 787) note that learning is an 'upgrading of our skillful coping and as our skills are improved and refined to cope with more and more things and situations, things show up as soliciting our skillful responses.' Learning to cope with fear is as much a bodily exercise as it is a mental one, because it requires a physical response, which is seen through the proactivity of the body. For example, practicing mooring operations led to less fear during the performance of the mooring operation. Hence, coping with fear is an example of acclimatizing to physical immersion in a COP. Acclimatizing to physical immersion when done prior to prompt from other members of the community is a key aspect of engaging in proactivity through body work.

6.2.2.2 Signaling Ability to Work as a Competent Member of the COP

The second element of body work is that it enables newcomers to signal their ability to work as competent members of the team who can (in a literal sense) carry their weight as a part of the team. Concerning access negotiation, then, body work signals to the community that the newcomer has the potential to perform the tasks required by him/her. For example, by performing the tasks of the lookout, a cadet is able to train his vision to look for lights from fishing boats or smaller vessels that might not appear on the radar. In Chapter 5 Vignette 4, John takes repeated bearings when he notices a crossing ship. In this case, his "looking" for a vessel and noticing details such as the red light enables proactivity when he assesses a potentially dangerous situation and goes back without prompt to take repeated bearings. This resonates with Yakhlef's (2010) point that competence is located in the body. This ability to perform as a competent member of a community of practice (Gherardi & Nicolini, 2002) conveys learning in practice.

Body work through dealing with tiredness is an additional way of communicating potential competence through imitation. Not being tired, or working despite being tired, was a way for the newcomers to gauge their performances against the performances of the old-timers. Learning through LPP involves, to some degree, imitating what the old-timers are doing (Yakhlef, 2010; Chan, 2015). This is especially true in the case of newcomers who are not able (at this point) to exercise judgement of their own performance. The way they judge whether what they are doing is correct or incorrect, is either through the responses of the other members of the community, or through observing what the other members of the community are doing, and following a similar performance. In the case of dealing with tiredness, cadets are able to reflect on their performance, and state, *I am not getting tired just like them (I5-C3)*.

The notion of exercising judgement through imitation finds grounding in the work of Merleau-Ponty (1962: 562) where, speaking on imitation he states, 'Because nothing could be experienced beyond ourselves, other bodies provide an important "mirror" for us, reflecting back aspects of ourselves that we do not or cannot see.' The bodies of the old-timers act as "mirrors" for newcomers in the practices of seafaring. They are able to gauge their own performance alongside those of the old-timers and seek ways to emulate the old-timers' performance, in order to be perceived as potential competent members of the community. Although embodied competence has been referred to in the literature (Lindkvist, 2005; Gherardi, 2009; Yakhlef, 2010), signaling of this competence becomes an important aspect of negotiating access to participation because, it legitimizes the newcomer as a potential participant in the COP. Therefore, body work adds to the current understanding of embodied competence, because it shows the importance of the body in signaling competence.

6.2.2.3 Communicating Intention to Learn

The third element of body work is that it signals the newcomers' intention to learn (participate) in the practices of the COP to which they do not have access. For example, dealing with tiredness is a way in which newcomers proactively enable their body for participation. Lave (2011) in her work on Vai and Gola tailors, states that the master's intention had implications for learning activities. Earlier, my study also showed that the goals of the old-timers influenced the learning opportunities for the newcomers. What comes out through dealing with tiredness, and proactivity as a concept, is the intention of the learners and the implication this has for the learning activities. If the newcomers' intentions are to learn the practices of navigation, these intentions need to be communicated to the old-timers to negotiate access to participation. The communication of intentions is done through dealing with tiredness, or coping with fear or adapting to hard

manual labor as a way of stating, "I am here despite being tired because I want to learn." Or, "I am enabling my body to perform despite it being a constraint because I want to learn." Body work, then, becomes a non-verbal communication to the community of practice that the newcomers are willing to perform beyond their required work, or the normal doings, in order to seek opportunities for participation. This adds to the literature on embodied learning because it shows that in addition to bodies being knowledgeable (Gherardi, 2009), and tools for learning (Strati, 2007), they also have the potential to become forms of communication. My study advances that body work is one such form of bodily communication. That is, when body work is performed, it communicates the intention to learn.

Proactivity through body work adds to the literature on situated learning and practice-based studies through demonstrating how proactivity is performed through the body. It develops the concept of body work as a means of enabling the body to perform in constraining situations. Consequently, it builds on Yakhlef's (2010) phenomenology of participation, because it not only focuses on an embodied understanding of participation (Yakhlef, 2010), but also demonstrates how the body can be used to negotiate access to participation in the first place. Given that participation is crucial to learning, body work helps partly explain how participation is accomplished in practice.

Proactivity is treated here not as pattern of behavior (Crant, 2000; Grant & Ashford, 2008), rather as a performance that is embedded in practice. Hence, it is not an individualist or cognitive view of proactivity, it is a view that is sensitive to the notion that individuals are always part of a community of practice (Lave & Wenger, 1991; Wenger, 1998). Therefore, looking at proactivity from a practice perspective allows us to see proactivity as a situated, embodied doing in practice. Having focused on body work as a form of proactive performance, we can now turn our

attention to the other form of proactivity - spatiotemporal work. Mack (2007: 378) notes that 'bodies navigate people into orientation with place; allow for the co-creation of 'placescapes' (Casey, 1993: 25), such as the seascapes.' In terms of proactively using the bodies, this means also reflecting on the space and time in which newcomers seek opportunities for participation.

6.2.3 Spatiotemporal work

Work on spatiotemporality within practice studies has been the focus of a number of studies. For example, Schatzki (2009) focuses on activity time-spaces which coordinate human activity. Nicolini (2007) reflects on telemedicine, looking at how practices are expended in time and space. The notion of situated learning itself implies an interest in space and time (Lave & Wenger, 1991; Gherardi et al., 1998). The spatiotemporal aspect of proactivity is related to the situating of practices in certain spaces and times. Both spatial territories and temporal structures enable and constrain certain courses of action or, in other words, participation (Orlikowski & Yates, 2002; Gherardi, 2006; Yanow, 2006). Spatiotemporal work involves proactively creating participation opportunities within the spatiotemporal structures of the practice. The findings have revealed that there were two main ways of doing spatiotemporal work – seeking opportunities for participation in specific spatial territories and seeking opportunities for participation at specific times. Using these ways of doing, two aspects of spatiotemporal work help newcomers negotiate access to participation:

1. Spatiotemporal work enables newcomers to demonstrate initiative to engage in specific territories and it enables newcomers to demonstrate task-based competence in spatial territories

2. It enables newcomers to navigate conflicting temporal structures and It creates variation in temporal structures

6.2.3.1 Demonstrating Initiative to Engage in Specific Territories

As reviewed in Chapter 2, the notion of spatial territories draws on Yanow (2006) and Orr's (1996) notion of territories at work. Yanow (2006: 1751) reflects on Orr (1996) and states, that 'the concept of territory, especially its social connotations, is central to understanding the organization of work.' Yanow's (2006) understanding of territory links it to the notion of boundedness and boundaries (Carlile, 2002; 2004), people within specific territories have an idea of what is or is not part of their territories, an idea that, she notes, Orr (1996) had only hinted at in his work. My findings show that newcomers have unequal access to certain spaces on board. For them, spatial territories take on the significance that the spaces demarcate where they can and cannot participate. While they usually have access to the deck, access to the bridge needs to be negotiated. Yet, access to the bridge is important in terms of their trajectory as legitimate peripheral participants if they want to become officers.

Spatiotemporal work adds to the concept developed in Chapter 4, section 4.2.1 that access to participation in specific practices influences the movement along the inbound trajectory. Proactively enabling participation in specific territories enables participation in practices specific to that territory. Hence, spatiotemporal work demonstrates the newcomers' initiative to engage in practices that will put them on an inbound trajectory. In terms of the practices of seafaring, this means in order to participate in the practices of navigation newcomers need to proactively seek opportunities for participation on the bridge. Through proactively seeking opportunities in certain spatial settings, newcomers are able to demonstrate their initiative to engage in the practices of the officers Furthermore, the territoriality of spaces means that going to certain territories shows

newcomers' understanding of the division of practices and signals their emerging identities as prospective officers to the old-timers. The findings revealed that certain officers perceived the cadets as ratings while others saw them as future officers. By seeking opportunities for participation in the "territory" of the officers, the cadet is able to start negotiating her/his identity as an officer rather than a rating. Hence the notion of spatiotemporal work adds to the concept of spatial territories (Orr, 1996; Yanow, 2006; Gherardi, 2006) because it shows why negotiating access to participation in certain spaces is important for the process of transition.

Another aspect of spatiotemporal work is that spatial territories enable a demonstration of certain types of performances which demonstrate task-based competence. Gherardi (2006) notes that spaces enable and constrain forms of participation, that is, what one can and cannot do within a given space. Spatial territories from a spatiotemporal work perspective are interesting because in order to negotiate access to specific forms of participation bounded in spatial territories newcomers need to engage in proactivity through spatiotemporal work.

Additionally, spatiotemporal work involves performing proactively in certain spaces in order to negotiate access to participation. Findings show that different spaces afforded various types of skillful performances. This ties in with Gherardi's (2006) notion that objects within a certain space determine potential actions. That is, certain spatial territories, afford the opportunity to perform certain actions (De Vaujany & Vast, 2014). Using these performances, the newcomer demonstrates the ability to competently perform the task to the practitioners within the spatial territory. Findings reveal that when these skillful performances are done proactively, it invokes a positive response from the old-timers. This was seen in Chapter 5 (5.3.1.) where the cadet proactively took the bearing and the second officer was pleased with the performance. In this sense, proactively going to

certain spaces and performing tasks in these spaces allows newcomers to negotiate access to participation.

6.2.3.2   Navigating Conflicting Temporal Structures

The third aspect of spatiotemporal work involves proactively making time to seek opportunities for participation. This involves navigating conflicting temporal structures between the operational pressures and the time required for participation. Orlikowski and Yates (2002: 685) state 'time is instantiated in organizational life through a process of *temporal structuring*, where people (re)produce (and occasionally change) temporal structures to orient their ongoing activities' (emphasis in original). Orlikowski and Yates (2002: 684) maintain, 'Temporal structures here are understood as both shaping and being shaped by ongoing human action, and thus as neither independent of human action (because shaped in action), nor fully determined by human action (because shaping that action).' Furthermore, shipboard routines mean that certain practices are enacted at certain times.

Along with access to other resources such as participation, old-timers, materials, my study finds that time is also a resource that newcomers need to negotiate access to (Shove, 2009). Garvin (1993) comments that in order to foster learning in an organization there must be time given for analysis and reflection; in other words, there must be time to learn. Participation in practices (Lave & Wenger, 1991) also needs time. This, in turn, has the potential to create tensions when newcomers have to learn to navigate conflicting temporal structures, which is evident when cadets have to decide whether to seek opportunities for participation or rest, or decide between resting and going ashore for a break.

Orlikowski and Yates (2002) talk about conflicting temporal structures and state that through enacting different temporal structures practitioners

experience different temporal rhythms which, in turn, can create 'tensions' and open up the possibilities for alternate 'temporal orders', 'practices' and 'temporal structures' (Orlikowski & Yates, 2002: 688). The tension on board is created when the temporal structure of the practices on board, that is, the structure created by the operational pressures (e.g., meeting the ETA) and the time required for participation opportunities are conflicting. Newcomers need to navigate these conflicting temporal structures in order to make time to participate, and this finding of time is a proactive performance. Through making time to participate newcomers are navigating the conflicting temporal structures to negotiate access to participation.

Additionally, when newcomers proactively make time to perform in certain practices (the practices of navigation) they create a variation in the temporal structure, which has the potential to change the structure fundamentally. While newcomers might have their own temporal rhythm in terms of where to be and *when* during the deck work, they need to proactively make time to engage in other aspects of the practice, such as working on the bridge. Navigating temporal structures and making time requires exercising situational judgement about correct courses of action because it is what allows the newcomers to anticipate the potential for proactivity, that is, when making time is appropriate and when it is not.

Variation in temporal structures is done in two ways, first, within practices, certain actions (doings and sayings) are enacted at certain times, through proactively making time to engage in the practices, newcomers vary the temporal structure. For example, according to the temporal structure on board, newcomers work with the crew on deck during day work, and then they have rest hours in the evening. In proactively making time to engage in the practices of navigation, the newcomers carve time out of their rest hours to go to the bridge, that is, they create a change in what they are

doing at a certain time. This is similar to Orlikowski and Yates' (2002) example of workers who work overtime or during weekends to make up for time lost during the normal working hours, if they continue to do so, the workers fundamentally change the temporal structure of working hours (Orlikowski & Yates, 2002: 688).

On the ship, there are multiple temporal structures enacted, for example, while the crew on the deck has certain working hours, the officers on board work in shifts of four to six hours twice a day. Hence, in order to participate in the practices of navigation, as these are performed by the officers, the newcomers need to know at what specific time to seek the opportunities for participation. From a proactive perspective, newcomers need to take the initiative to seek opportunities for participation while keeping in mind the temporal dynamics on board. For example, on board the ship, ideally, officers have shifts of four to six hours. During each shift change, the incoming officer for the next shift arrives fifteen minutes before the shift change to conduct the handover from the officer on watch. The cadet as the newcomer can then head up to the bridge at the same time to participate in the handover and subsequently keep watch along with the new officer on watch. In this sense, proactively going to certain spaces at certain times creates the potential for negotiating access to participation. Importantly, seeking opportunities for participation at specific times within the temporal rhythm creates specific opportunities for proactive performance.

Earlier, I explored the concept that space and the objects within the space enable and constrain certain courses of action (Gherardi, 2006). The findings show that time also enables and constrains certain courses of actions. From a proactive perspective, the analysis reveals that time also creates opportunities for specific types of participation. Going up to the bridge fifteen minutes after the shift change does not create the opportunity

to participate in the handover, however, going on board fifteen minutes prior, does. Hence, time becomes important in terms of knowing when to proactively perform. Proactivity, knowing and time are interlinked. While practice theories have emphasized that knowing in practice involves knowing what to do next, it is also important for newcomers to know when to do it. In order to proactively perform, newcomers need an awareness of the temporal rhythms of the practices of the community with a view to perform within the rhythm.

The review of spatiotemporal dimension of practices carried out in chapter 2 has revealed that practices are situated in space and time (Schatzki, 1996; Orlikowski, 2002; Grootenboer et al., 2017). Through focusing on the spatiotemporal work as a form of proactive performance, my study adds to the practice literature that focuses on the spatiotemporal dynamics of practice (Schatzki, 1996; 2009; Orlikowski & Yates, 2002; Gherardi, 2006; Yanow, 2006; Shove, 2009). It does so in two ways, first by adding a spatiotemporal element to learning through participation which demonstrates how space and time enable certain forms of participation and shows how newcomers navigate the spatiotemporal dynamics to seek access to participation. Second, it builds spatiotemporal work as a proactive performance; in doing so, it again adds an element of practice-based sensitivity to the concept of proactivity by showing that newcomers need to understand the spatiotemporal rhythms of the practice and maneuver within these rhythms in order to seek opportunities for participation.

6.2.4 Eliciting Willingness to Allow Participation from Old-timers

So far, the sections above have shown how developing an understanding of practice helps newcomers to anticipate proactivity and the ways in which

242

proactivity enables newcomers to negotiate access to participation. In the case of the cadets, they engage in proactivity in order to negotiate access to participation which might not be granted otherwise. Hence, proactivity is change-oriented (Grant and Ashford, 2008). In other words, by engaging in proactivity, newcomers can influence the actions taken by old-timers, which is in line with Foucault's (1982) notion of power as reviewed in chapter 2, section 2.8. Here power is understood in the Foucauldian sense where power is the mode of action that acts on the actions of others (Foucault, 1982: 790). It is also similar to Nicolini and Monteiro's (2017:114) concept of agency where they link agency with power and maintain 'the world is highly unequal as access to such agency (which means 'power' by any other name) is unevenly distributed.' Access to agency in a community of practice, that is, what an agent can and cannot do within a practice (Schatzki 2002) is a question of power.

If agency and power are 'doings' within practices, then proactivity becomes the ways in which certain 'doings' are deliberately enacted in order to gain access to increasing agency. Agency in my study is seen in the peripheral participation of newcomers; after all, participation too can be conceived as what newcomers can and cannot do within a COP. To gain access to increasing participation, the newcomers have to engage in certain doings which influence the doings of others, such that it leads to increased participation; proactivity, then, can be conceived as power. The second way through which proactivity might be perceived is as resistance to power. Again, if power is understood as the ability to influence actions, then the established community on board enacts power when they allow or deny access to participation as this influences the newcomers' ability to act in certain ways, through curtailing their access to participation. Proactivity from the newcomers' side seeks to influence the dominant power dynamic on board by creating opportunities for participation. Proactivity, then, changes the way in which the newcomer's actions are influenced by the actions of the old-timers and can be seen as a form of resistance to power.

Watson (2016: 173) states, that while a study of practices inherently includes a study of power, it has not been able to show how power is deliberately done in practice.

> 'Practice theory demonstrably offers an understanding of how capacities to act with effect are constituted through its account of the relational, and profoundly social, grounds for action - understood as the performance of practice. However, it has not yet been shown to account for the ways in which some practices and practitioners are able to deliberately affect the conduct of practices and practitioners elsewhere.'

My study empirically demonstrates how certain doings (proactive performances) performed by certain practitioners (newcomers) deliberately influence the actions of other practitioners (old-timers) to negotiate access to participation. Consequently, it answers Watson's (2016) call for studies to account for the accomplishment of power in practice. It does so through demonstrating how proactivity on the part of newcomers influences the actions of others. Additionally, because proactivity is change-oriented, it is performance that deliberately sets out to influence the actions of others. The influence of proactivity on the performances of old-timers is seen when proactivity elicits a willingness to allow participation from the old-timers. My findings show that when newcomers engaged in proactivity that was sensitive to the practices of the community, they occasioned a positive response from the old-timers. For example, in the interviews cadets noted that when they engaged in proactivity the responses were positive, '*the captain said to me okay, this guy is very, very good because he wants to learn so I will give a chance*' (I17-O8), or,
'*I: So how did that come about? How did they start letting you work on the equipment?*
I5-C3: Well, I showed them that I could operate this equipment'.

These positive responses show the deliberate effect of proactivity on the

old-timers. Therefore, proactivity can be conceptualized as a form of power. The positive responses are key to proactivity because they complete negotiation of access (in that situation). One of the questions that my study set out to answer was 'how do newcomers negotiate access to participation in a COP?' This section has shown how, through proactivity, newcomers are able to negotiate access to participation. The negotiation of access to participation is crucial for the process of transition because it is what enables newcomers to progress towards fuller participation. Consequently, this section shows how proactivity as a form of power allows newcomers to transition towards fuller participation through access negotiation. Hence, through developing the concept of proactivity, my study not only accounts for how certain performances deliberately influence the actions of old-timers in the immediate future, it also shows how certain performances seek to influence newcomers' own future performances as legitimate peripheral participants. Furthermore, the findings from my study help argue that participation is a practical accomplishment, it is not, as previous studies have shown – given (Lave & Wenger, 1991; Handley et al 2007); rather, it is made possible by newcomers through engaging in proactivity.

6.2.5 Conclusion

In sum this section has shown how newcomers negotiate access to participation through proactivity and, in doing so, it has developed the concept of proactivity from a practice perspective. Proactivity in practice, then, can be defined as the following: *proactivity is skillful performance, done within a community of practice to influence the actions of other members of the community in order to negotiate access to participation*. This definition of proactivity from a practice perspective is important to situated learning because it helps to explain how certain modes of doings aid the process of transition through access negotiation. There are two contributions that this section makes:

245

The first key contribution of this section is that it opens the black box of participation in situated learning through showing that if participation in practice is not given (Lave, 1991), it can be negotiated. In order for participation to be negotiated, newcomers engage in proactive performance. From this starting point, the study develops an embodied, spatiotemporal, practice sensitive notion of proactivity. By building a concept of proactivity in practice, the study highlights the fluid nature of relationships within the community of practice and shows how newcomers can use proactivity to negotiate access to participation. It does not view proactivity as a form of heroic agency (Nicolini & Monteiro, 2017), or take an individualist perspective of proactivity; rather, it looks at proactivity as sensitive to relationships and practices within the community of practice. Proactivity as a concept adds to situated learning, because it reflects a form of access negotiation used by the newcomers in order to negotiate access to participation. This negotiation to access is used in order to transition from newcomers to old-timers in a community of practice.

Second, within literature on situated learning, there has been a call to focus on the contestations and conflicts that arise during the process of legitimate peripheral participation (Contu & Wilmott, 2003; Kakavelakis & Edwards, 2012). Through focusing on the process of transition, my study answers the call by reflecting on how the process of access negotiation takes place. Through placing proactivity as a way through which newcomers negotiate access to participation, it introduces the concept of proactivity from a practice perspective. The concept of proactivity adds to situated learning as it provides insights into the way through which newcomers gain access to increasing levels of participation. Furthermore, the theory of LPP posits that not all peripheral members become full participants. As Fuller (2007) suggests, 'participation in communities of practice give rise to the opportunity for people to become 'knowledgeable practitioners' through

their co-participation but this outcome is not inevitable.' Proactivity on the part of the newcomers and the response it elicits from the old-timers could partially explain why some peripheral members of the community travel on the inbound trajectory to become full participants while others do not.

6.3 Summary

To conclude, this chapter theorized the analysis developed in the previous chapters (Chapters 4 and 5). In doing so it made two key contributions to the situated learning and practice-based theories. First, it developed the theory of transition as an episodic process. It showed that when newcomers progress as legitimate peripheral participants across sites of practice, they draw, redraw and refine distinctions through switching between three dominant modes of learning – connecting, disconnecting, and reflecting. The switching of the dominant modes of learning becomes a way through which newcomers navigate the similarities and differences between the sites of practice. Consequently, through developing the theory of transition as an episodic process, the study demonstrates how newcomers accomplish LPP in practice as they move between sites. Second, the study problematized participation to reveal how newcomers negotiate access to participation. In doing so, it developed proactivity as a practice-sensitive concept by showing the ways in which newcomers engaged in forms of proactivity and how these forms helped elicit a positive response from the old-timers. Hence, it showed how newcomers used proactivity to progress through the process of transition within practice.

7 Conclusions and Implications

This thesis developed a theory of the process of transition by reflecting on two aspects of legitimate peripheral participation that required more attention: (1) how newcomers learn through movement between sites of practice; and, (2) how they negotiate access to participation. The purpose of this chapter is to provide the concluding thoughts and a final summary before considering the scope of the current project and implications for industry as well as for further research. This chapter is structured as follows: First, the chapter summarizes the key contributions of the research. Second, it points to the practical implications of the research for the shipping industry. Third it reflects on the scope of the research. Finally, it states the potential avenues for future research.

7.1 Summary of Key Contributions

The aim of my thesis was to understand the process of transition by focusing on practices of legitimate peripheral participation. As reviewed in Chapter 2, iterative movement between sites of practice and negotiating access to participation are areas where there is limited understanding of the practical accomplishment of LPP in existing theory. There were two empirically driven research questions that underpinned this research. First, how does movement between sites of practice influence the process of transition from newcomer to full participant? Second, how do newcomers gain access to increasing levels of participation in a community of practice?

The first question was answered in Chapter 4 of the thesis, through detailing the movement between sites of practice and how this movement influenced the process of transition. Here, the study makes two key contributions to the literature on situated learning and practice-based theory. The first is to build theory on the process of transition across sites of practice. Previous literature on LPP has shown that transition is not always a seamless process (Lave & Wenger, 1991; Lave, 1993/ 2010; Gherardi et al., 1998; Lave, 2011). By zooming in and out (Nicolini, 2010a) across sites of practice my study reveals that the process of transition as a distinctly episodic process. That is, the process is iterative and marked by (partial) disjuncture. As newcomers move between sites of practice they experience continuities and disjuncture between sites of practice. To navigate the LPP process newcomers switch between three dominant modes of learning: connecting, disconnecting and reflecting (Schön, 1983; Jordan, 2009; Yanow & Tsoukas, 2009), as they move across sites of practice. The findings show, further, how these modes of learning are actually accomplished in practice and how switching between dominant modes allows newcomers to draw, redraw and refine distinctions about potential courses of actions (Tsoukas & Vladimirou, 2001; Tsoukas, 2009; Seirafi, 2013).

Additionally, the study develops the concept of connective visions. These are the activities of using dialogical and material apparatus to envision the connections between sites of practice. The concept of connective visions shows how newcomers form connections to the practices that they do not have physical access to. As such, the concept of connective visions, helps extend the theory of LPP to how newcomers make connections between sites of practice and why making these connections is important for the development of their understanding of practice. In developing these concepts as modes of learning the study extends the concept of drawing and refining distinctions as a way of knowing (Tsoukas & Vladimirou, 2001;

Tsoukas, 2009; Seirafi, 2013) by showing how switching between dominant modes of learning allows newcomers to draw, redraw and refine distinctions about potential courses of actions. The modes of learning, that is, connecting through connective visions to another site of practice, disconnecting from the previous site of practice, reflecting on the similarities and differences between sites, are the ways in which newcomers navigate the episodic process of transition and the disjuncture between episodes. Through focusing on these processes, my study demonstrates how learning through movement is practically accomplished.

The second research question was answered in Chapter 5 of the thesis, where details of the process of access negotiation were revealed in a site of practice where access was not given. In answering this research question, the study found that newcomers were able to successfully negotiate access to participation through proactive performance, so long as the proactive performance showed sensitivity to the ongoing practices of the community. Proactivity has not been conceptualized using a practice perspective in previous literature and the use of proactivity for access negotiation demonstrates how participation is accomplished in practice. As such, the third key contribution of this study is that it opens the "black-box" of participation in studies of LPP. Previous studies on LPP have all stated participation as key to the progression from newcomers to old-timers (Lave & Wenger, 1991; Gherardi et al 1998; Billet, 2004; Gherardi, 2016). My study demonstrates that participation is made, and not given (Lave & Wenger, 1991, Gherardi, et al 1998; Borzillo et al 2010; Kemmis et al 2014) and it is accomplished by newcomers through engaging in proactivity. As such, the study develops a practice-theoretical concept of proactivity as a way of negotiating access to participation.

The definition of proactivity developed in this study is that it is skillful performance, done within a community of practice to influence the actions

of other members of the community in order to negotiate access to participation. Two forms of proactivity have been developed, body work, which is the ways newcomers enable the body to perform in situations where the body might be a constraint; and spatiotemporal work, which is the ways of proactively creating participation opportunities within the spatiotemporal structures (Yanow, 2006; Gherardi, 2006; Orlikowski & Yates, 2002) of practice.

Importantly, engaging in proactivity elicits a willingness to allow participation from old-timers, hence proactivity is conceptualized as a form of power (Foucault, 1982; Watson, 2016) because it is a deliberate action which seeks to influence the actions of others which lead to access negotiation. Exploring access negotiation through proactivity answers the call in previous literature to focus on the contestations and conflicts that arise in the LPP process (Contu & Wilmott, Kakavelakis & Edwards, 2012). Furthermore, proactivity and the access negotiation process explained in this study, help shed light on the conundrum of LPP- why do some newcomers on the inbound trajectory become full participants while others do not (Lave & Wenger, 1991; Wenger, 1998; Fuller, 2007).

My study has explored the practical accomplishment of legitimate peripheral participation. Both major findings from this study help understand how newcomers accomplish LPP in practice, that is, they switch between dominant modes of learning when they experience disjuncture in the movement between sites and they use forms of proactivity to negotiate access to participation when it is not given. Through switching between dominant modes of learning and engaging in proactivity the newcomers are able to progress towards fuller participation.

7.2 Practical Implications

Along with the theoretical contributions of the study, it is important to also consider the practical implications. This is especially true when taking a practice-based approach. As (Corley & Gioia, 2011: 23) state,

> 'The most important insight from a practice orientation concerning the assessment of theoretical contribution is that theoretical knowledge does not exist as a set of theory-building rules independent of actual practice; rather, it becomes inextricably intertwined with the manifestations of the theoretical knowledge in practice (and vice versa).'

It is thus important to address the practical implications of the theoretical contributions. Corley and Gioia (2011: 23) state, 'the production of knowledge should be treated as a recursive dialogue between theorists and reflective practitioners.' Following this sentiment, it is time to consider the contributions of this study to the industry.

Mack (2007: 385) notes, 'in *ironic* twist to these global seascapes, international concerns are now emerging about the future shortage of qualified ship officers in the 21st Century (Thomas, Sampson & Zhao, 2003).' This is by no means a new problem for the industry. Alderton et al. (2004: 81) quote the managers of the of the Standard Steamship Owners' Protection and Indemnity Association (the Standard P &I Club) in 1993 who state,

> 'the shortage of qualified crew is only too well known and it is our experience that a high percentage of personal injury claims are caused by fairly serious negligence […] One cannot any longer rely on paper qualifications of crew members without giving them additional training' (Standard P&I Club, 1993, cited in Alderton et al. (2004: 81).

According to the Baltic and International Maritime Council, International Chamber of Shipping (2015) report, the industry faces a shortage of 16,500 officers this is said to increase by 2025 to a shortage of 147,500 officers. Moreover, the report suggests, 'The current maritime manpower situation and future outlook indicate that the industry and relevant stakeholders should not expect there to be an abundant supply of qualified and competent seafarers in the future without concerted efforts and measures to address key manpower issues' (BIMCO ICS, Manpower Report, 2015). There is a call for enhancement of recruitment, education, and training, which are seen as crucial for the development of a qualified and competent workforce.

In order to address the problem of the shortage of competent seafarers, it is important to understand the process of learning, to understand how in practice, newcomers to the industry transition to becoming 'competent' seafarers. Here LPP as a theory of learning is useful because it shifts the scope of learning from being purely cognitive to being social, that is, newcomers learn through participation in the practices of the community (Lave & Wenger, 1991). This shift in understanding opens the scope of what learning is and, more importantly how this learning takes place. For the industry, understanding that opportunities for participation are crucial for the development of practitioners is the key insight from a situated learning perspective.

My study develops an overview of the movement between the training center and the ship to show how this influences the cadets' learning. The utility of this contribution lies in creating an overview of the process of transition. It shows how cadets navigate the process of transition in their quest to become officers. As such, it highlights the interplay and disjuncture between shore-based and sea-service training. It highlights how the similarities and differences in training experienced between the training

center and the ship mean that the cadets connect and disconnect from shore-based training programs. This potentially highlights that while shore-based training is helpful, it cannot replace sea-service training. This is because, as the findings from my study reveal, when cadet experience differences between the training and sea-service they disconnect from the training center experiences. Crucially it reflects on the differences in the objectives of the instructors and the officers on board and shows how the cadets need to legitimize themselves in different ways at the training center and on board the ships. Training centers can potentially use this finding to develop their training program such that it reflects these differences to cadets, which might help them better prepare for life and work on board.

For the organizations, it shows that while there is a need to align the shore-based training with the sea-service training, the conflicts between the two sites potentially act as important learning areas for the cadets. As the study shows, it is because of the disjuncture between sites of practice that the cadets are able to reflect on their experiences when they return to shore. Organizations, accordingly, might be able to organize cadet training to better align the shore-based and sea-service trainings, or create awareness of the differences between the training center and the ship such that cadets are better prepared to navigate the differences.

My study also highlights the differences in execution of regulations on board, which leads to disconnecting, these differences might occur due to operational pressures or due to incorrect training practices of officers. While some of the findings, such as differences in maneuvers and calculations, help cadets understand the nuances of shipboard practices, others such as not performing safety drills or going into enclosed spaces prior to completing the checklist have been recognized as dangerous situations. Training centers and organizations need to address how cadets can cope with such situations on board. These situations can potentially

become learning opportunities for cadets if they are given the opportunities to discuss and reflect on the differences in practices. This study shows that cadets start to reflect on the similarities and differences between the training center and the ship, accordingly organizations can create more platforms that can help cadets and trainers engage in more reflective discussions when they come back from their sea service training.

Additionally, the study highlights a crucial industry problem, that third party crew managers cannot control the participation opportunities of cadets on board ships. This study echoes previous work on seafarer training which has highlighted that cadets on board do not get adequate support from officers and crew for participation during their sea service contracts (Gekara, 2009; Caesar, Cahoon & Fei, 2014). This participation in turn, is crucial for the cadets' progression towards becoming competent officers. This study shows how newcomers manage to successfully negotiate access to participation on board through proactivity. The practical implication that arises from this finding is that for the crew and officers on the ship, the findings help show the importance of participation opportunities on board and the need to provide the cadets with these participation opportunities. This can be addressed by the industry in two ways. The first, is informing the crew on board of the necessity of participation opportunities on board. Third party crew managers, like Crewco, need to find ways to insure that the principals, that is, the ship owners realize that participation opportunities on board are crucial for the development of competent officers.

Proactivity as a means to negotiate access to participation becomes a crucial learning point for the cadets and the training centers. Organizations can use the findings from this study to demonstrate how participation is negotiated through proactivity on board. Furthermore, proactivity can be addressed through the teaching curriculum at the training centers,

potentially through 'soft-skills' training. This can address how newcomers can perform proactivity on board, and how they can use proactivity to show competence, intention to learn and consequently, negotiate access to the participation that is crucial for becoming competent officers.

7.3 Scope of the Study

Keeping in line with previous studies taking a practice-based approach, the study took a qualitative, inductive approach to study the process of transition. Hence, the strength of this study lies in its rich narratives and vignettes that allow the reader to understand how the process of transition takes place in practice. The data allowed the formation of the empirically driven research questions which problematize taken for granted aspects of situated learning. This in turn led to the new conceptual insights.

As the research questions for this study were empirically driven, the question that arises is whether the findings from the research can be applied to other research settings (Gioia et al., 2012). Both in the analysis of the findings and in the discussion, the research tried to compare and contrast the findings of the study with previous literature. While the merchant maritime industry has some unique aspects, it is not treated as an extreme case within this study. Aspects of the study such as the iterative movement between two sites of practice might be found in other research settings such as the aeronautical industry, or the healthcare sector where doctors and nurses undergo periods of training interspersed with periods of operational practice (Zukas & Kilminster, 2014). Another example is the move between vocational training and trade as noted by Tanggaard (2007) which involves iterative movement between the vocational training center and the trade. Lack of access to participation in the practices of a community can be similarly found in other settings where newcomers might have to

negotiate access in order to undergo LPP. Potential setting might include, defense services, such as the navy, army and air-force which have strict hierarchical orders, emergency services, fire-fighters or police, which perform high-risk operations.

The scope of the study was constrained both by the phenomenon under investigation that is, the process of transition and the methodological choices made during fieldwork, both of which create the boundary parameters. As the aim was to focus on the process of transition from newcomers to old timers in the practices of seafaring, related aspects such as the historical move in the industry from an apprenticeship-based training model to the current shore-based learning institutions, or the influence of regulations on the practices on board, while touched upon, were not elaborated, instead my study focused on particular sites of practice rather than the whole ecology (Swan, Newell & Nicolini, 2017). Future research projects set in the maritime industry might be able to focus on above mentioned aspects to understand the ecology of learning in the maritime industry and how different actors such as the IMO or EMSA, shipping companies, crew managers, officers, ratings and cadet influence the process of learning in the maritime industry.

Moreover, certain methodological decisions were taken, such as focusing the process of transition from newcomers as new entrants to the community to old timers as officers, rather than the move from junior officer to masters. This was done to understand in depth that part of the process of transition. The move from junior officers to masters is another big transitional leap. Due to pragmatic constraints, such as not having access to multiple ships and longer time required on the ships for observations, the decision was made to focus on the data already available which presented an interesting case in itself.

7.4 Avenues for Future Research

Problematizing taken participation as a taken for granted aspect of situated learning opens avenues for investigating situated learning in complex organizations where traditional notions of legitimate peripheral participation as understood through apprenticeships might not be sufficient to understand the process of transition. As such, there are three key avenues for future research that arise from the findings and insights of the study.

The first avenue for future research is related to the concept of connective visions to understand how participants use dialogical and material apparatus to form connective visions between sites of practice which allow them to envision connections between sites of practice. Future research can potentially extend this concept to other settings for example virtual COPs (Ardichvili, 2008) to see what kinds of dialogical and material apparatus are used within virtual landscapes of practice to form connective visions, how connective visions are formed and how they are used to make connections between or across virtual sites of practice. Studies of connective visions in virtual COPs might yield new types dialogical and material apparatus or tools used to make connections. Furthermore, my study found that newcomers through forming connective visions made three types of connections between sites – theory-practice, past-present-future and if-then connections. Researching connective visions at different sites might help explore new forms of connections that participants form between sites.

Second, problematizing participation as given (Lave & Wenger, 1991; Wenger, 1998; Gherardi et al; 1998; Handley et al 2007) and seeing participation as a practical accomplishment creates the potential to explore the ways in which participation is accomplished in practice. Future studies

on LPP, might be able to yield avenues other than proactivity through which newcomers can accomplish participation in practice. The practical accomplishment of participation can be a way through which Watson's (2016: 173) call for further research on how particular practices and practitioners deliberately affect the 'conduct of practices and practitioners elsewhere.' This study highlights the ways in which newcomers used proactivity to negotiate access to participation. The concept of proactivity developed in this study opens the avenue for future research on proactivity from a practice perspective. For example, this study has focused on proactivity in the form of body work and spatiotemporal work, which were predominant in the particular setting that this study explored, the practices of seafaring. Studies of proactivity from a practice perspective conducted in other settings have the potential to reveal other forms of proactivity, which would lead to a better understanding of proactivity from a practice perspective.

Finally, the maritime industry as a research setting also opens possibilities for future research. Given the size and economic importance of the industry it is still under-researched in the management and organizational studies field. Certain aspects of the industry, such as the boundaries between work and life on board or the movement between sea and shore, and the 'inter-places' (Mack, 2007) might be interesting to explore though the lens of liminality. Furthermore, the practices of seafaring on board create an attractive setting to explore the comparison between the mostly traditional apprenticeship style of learning experienced by ratings and the more conventional vocational education to trade learning experienced by officers. The dynamics on board between the ratings and the officers or between the seafarers and shore-based office workers might also be of interest to those studying boundary work and knowledge translation. These are some of the dynamics that were found while conducting the current

research project; further opportunities for research might be found through exploring the practices of the industry.

7.5 Concluding Words

In sum, my research set out to explore LPP process by theorizing the process of transition. I focused on participation across sites of practice and how participation is negotiated as two under-explored areas of within the literature. Through conducting a multi-sited ethnography and zooming in and out on the practices of seafaring across two sites, I was able to reflect on how newcomers navigated the process of transition. The key contributions of my study are that, movement between sites of practice reveals transition as an episodic process that is navigated by newcomers through switching between three dominant modes of learning. Furthermore, newcomers negotiate access to participation, when it is not given, through proactivity. My study advances that the practical accomplishment of LPP is seen through switching the dominant modes of learning and proactivity. As such it develops the concepts of transition as an episodic process and proactivity from a practice perspective to advance a more nuanced understanding of participation in LPP and how it is accomplished in practice.

Reference List

Alderton T., Bloor M., Kahveci E., Lane T., Sampson H., Thomas M., Winchester N., Wu B., Zhao M. (2004), *The Global Seafarer: Living and Working Conditions in A Globalized Industry*, International Labor Organization.

Ardichvili A. (2008), Learning and Knowledge Sharing in Virtual Communities of Practice: Motivators, Barriers, and Enablers, *Advances in Developing Human Resources*, 10(4), 541-554.

Ashforth B.E., Sluss D.M., Harrison S.H. (2007), Socialization in Organizational Contexts, in Hodgkinson G.P., Ford K. (Eds.), *International Review of Industrial and Organizational Psychology*, 22, 1-70.

Atkinson P., Hammersley, M. (1994), Ethnography and Participant Observation, in N Denzin, Y. Lincoln (Eds.), *Handbook of Qualitative Research*, Thousand Oaks, CA, Sage, 248-261.

Baltic & International Maritime Council, International Chamber of Shipping Report (2015), *Manpower Report: The Global Supply and Demand of Seafarers in 2015*, http://www.ics-shipping.org/free-resources/manpower-report-2015, visited on 23. 01. 2017

Barley S.R. (1986), Technology as an Occasion for Structuring: Evidence from Observations of CT Scanners and the Social Order of Radiology Departments, *Administration Science Quarterly*, 31(1), 78-108.

Bell D. (1999), 'The Axial Age of Technology Foreword: 1999', in T*he Coming of the Post-Industrial Society*, New York: Basic Books, Special Anniversary Edition, IX–LXXXV.

Berger P.L., Luckmann T. (1966), *The Social Construction of Reality: A Treatise in The Sociology of Knowledge*, Anchor Books, New York.

Billett S. (2004), Workplace Participatory Practices: Conceptualising Workplaces as Learning Environments, *Journal of Workplace Learning*, 16(6), 312-324.

Billett S. (2014), *Mimetic Learning at Work*, Springer, Dordrecht.

Bloor M., Sampson H., Gekara V. (2014), Global Governance of Training Standards in an Outsourced Labor Force: The Training Double Bind in Seafarer License and Certification Assessments, *Regulation & Governance*, 8(4), 455–471.

Borzillo S., Aznar S., Schmitt, A. (2011), A Journey Through Communities of Practice: How and Why Members Move from The Periphery to The Core. *European Management Journal*, 29(1), 25-42.

Bourdieu P. (1990), *The Logic of Practice*, Nice R. (Translation), Stanford University Press, Stanford.

Brewer J. (2000), *Ethnography*, Mcgraw-Hill Education, NewYork.

Brown J.S., Collins A., Duguid, P. (1989), Situated Cognition and The Culture of Learning, *Educational Researcher*, 18(1), 32-42.

Brown S. Duguid P. (1991), Organizational Learning and Communities-Of-Practice: Towards a Unified View of Working, Learning and Innovation, *Organization Science*, 2(1), 40-57.

Brown J.S., Duguid P. (1998), Organizing Knowledge, *California Management Review*, 40(3), 90-111.

Bryman A., Bell E. (2011), *Business Research Methods* (3rd Ed.), Oxford University Press, Oxford.

Burrell G., Morgan G. (1979), *Sociological Paradigms and Organizational Analysis*, Heinemann Educational Books Ltd., London.

Caesar L.D., Cahoon S., Fei J. (2015), Exploring the range of retention issues for seafarers in global shipping: opportunities for further research, *WMU Journal of Maritime Affairs*, 14(1), 141-157.

Carlile P. (2002), A Pragmatic View of Knowledge and Boundaries: Boundary Objects in New Product Development, *Organization Science*, 13(4), 442–55.

Carlile P. (2004), Transferring, Translating, and Transforming: An Integrative Framework for Managing Knowledge Across Boundaries, *Organization Science*, 15(5), 555-568.

Chan S. (2013), Proximal Participation: A Pathway into Work. *Journal of Vocational Education & Training*, 65 (4), 474–488.

Chan S. (2015), The Contribution of Observation to Apprentices' Learning, *Journal of Vocational Education*, 67(4), 442-459.

Collins H.M. (1999), Tantalus and The Aliens: Publications, Audiences and The Search for Gravitational Waves, *Social Studies of Science*, 29(2), 163-197.

Contu A. (2014), On Boundaries and Difference: Communities of Practice and Power Relations in Creative Work, *Management Learning*, 45(3), 289-316.

Contu A., Willmott H. (2003), Re-Embedding Situatedness: The Importance of Power Relations in Learning Theory, *Organization Science*, 14(3), 283-296.

Cook S.D.N, Yanow D. (1993), Culture and Organizational Learning, *Journal or Management Inquiry*, 2(4), 373-390.

Corbin J., Strauss A. (1990), Grounded Theory Research: Procedures, Canons, Evaluated Criteria, *Qualitative Sociology*, 13(1), 3-21.

Corley K.G., Gioia D.A. (2011), Building Theory about Theory Building: What Constitutes a Theoretical Contribution, *Academy of Management Review*, 36(2), 12- 32.

Corradi G., Gherardi S., Verzelloni L. (2010), Through the Practice Lens: Where Is the Bandwagon of Practice-Based Studies Heading?, *Management Learning*, 41(3), 265–283.

Cox A. (2005), What Are Communities of Practice? A Comparative Review of Four Seminal Works, *Journal of Information Science*, 31(6), 527–540.

Crant J.M. (2000), Proactive Behavior in Organizations. *Journal of Management*, 26(3), 435-462.

Cunliffe A.L. (2003), Reflexive Inquiry in Organizational Research: Questions and Possibilities, *Human Relations*, 56(8), 983-1003.

Cunliffe A.L. (2011), Crafting Qualitative Research: Morgan and Smircich 30 Years On, *Organizational Research Methods*, 14(4), 647-673.

Cunliffe A.L. (2016), Republication of "On Becoming a Critically Reflexive Practitioner", *Journal of Management Education*, 40(6), 747-768.

Cunliffe A.L., Easterby-Smith M. (2004) From Reflection to Practical Reflexivity: Experiential Learning as Lived Experience, In Reynolds M., Vince R. (Eds.), *Organizing Reflection*, Ashgate Publishing, Abingdon, 30-46.

Czarniawska B. (2004). On Time, Space, and Action Nets, *Organization*, 11(6), 773-791.

De Vaujany F.X., Vaast E. (2014), If These Walls Could Talk: The Mutual Construction of Organizational Space and Legitimacy, *Organization Science*, 25(3), 713–731.

Denzin N.K., Lincoln Y. S. Ed. (2005), *Sage Handbook of Qualitative Research* (3rd. Ed.), Sage Publications Inc, London.

Dhillon B.S. (2007), *Human Reliability and Error in Transportation Systems*, Springer Science & Business Media, London.

Dreyfus H.L. (1991), *Being-In-The-World: A Commentary on Heidegger's Being and Time, Division I*, MIT Press, Cambridge.

Dreyfus H.L., Dreyfus S.E. (2005), Peripheral Vision: Expertise in Real World Contexts, *Organizational Studies*, 26(5), 779-792.

Duguid, P. (2005). "The Art of Knowing": Social and Tacit Dimensions of Knowledge and The Limits of The Community of Practice, *The Information Society*, 21(2), 109-118.

Elkjaer B. (2003), Social Learning Theory: Learning as Participation in Social Processes, in Easterby-Smith M., Lyles M. (Eds.), *Blackwell Handbook of Organizational Learning and Knowledge Management*, Blackwell, Oxford, 38–53.

Emerson R., Fretz R.I., Shaw L.L. (1995), *Writing Ethnographic Fieldnotes*, University of Chicago Press, Chicago.

Everard M. (2003), The Question of Safety, *Maritime Policy & Management*, 30(2), 91-92.

Feldman M.S., Orlikowski W.J. (2011), Theorizing Practice and Practicing Theory, *Organization Science*, 22(5), 1240-1253.

Fine G.A., Morril C., Surinarain S. (2009), Ethnography in Organizational Setting, In Buchanan D.A., Bryman A. (Eds.), *Sage Handbook of Organizational Research Methods*, Sage Publications Inc., London, 602-619.

Fineman S. (Ed.), (2000), *Emotion in Organizations*, Sage Publications Inc., London.

Fontana A., Frey J.H. (2005), The Interview: From Neutral Stance to Political Involvement, in Denzin N. K., Lincoln Y. S. (Eds.), *Sage Handbook of Qualitative Research* (3rd. Ed.), Sage Publications Inc., London, 695-728.

Foucault M. (1982), The Subject and Power, *Critical Inquiry*, 8(2), 777–795.

Fox S. (2000), Communities of Practice, Foucault and Actor-Network Theory, *Journal of Management Studies*, 37(6), 853-867.

Fuller A. (2007), Critiquing Theories of Learning in Communities of Practice, in Hughes J., Jewson N., Unwin L. (Eds.), *Communities of Practice: Critical Perspectives*, Routledge, New York, 17-29.

Fuller A., Unwin L. (2003), Learning as Apprentices in the Contemporary UK Workplace: Creating and Managing Expansive and Restrictive Participation, *Journal of Education and Work*, 16(4), 407-426.

Fuller A. Unwin L. (2004), Expansive Learning Environments: Integrating Organisational and Personal Development, in H. Rainbird, A. Fuller, A. Munro (Eds.), *Workplace Learning in Context,* Routledge, London, 126–144.

Garvin, D.A. (1993), Building a Learning Organization, *Harvard Business Review* 71(4), 78 91.

Gekara V. (2009), Understanding Attrition in UK Maritime Education and Training, *Globalisation, Societies and Education*, 7(2), 217-232.

George R. (2015), Worse Things Still Happen at Sea: The Shipping Disasters We Never Hear About, *The Guardian*, published 10th Jan. 2015, https://www.theguardian.com/world/2015/jan/10/shipping-disasters-we-never-hear-about, visited on 10.11.2015.

Gherardi S. (2001), From Organizational Learning to Practice-Based Knowing, *Human Relations*, 54(1), 131-139.

Gherardi S. (2006), *Organizational Knowledge: The Texture of Workplace Learning*, Blackwell, Oxford.

Gherardi S. (2008), Situated Knowledge and Situated Action: What Do Practice-Based Studies Promise. *Sage Handbook of New Approaches in Management and Organization*, 516-525.

Gherardi S. (2009a), Introduction: The Critical Power of the Practice Lens, *Management Learning*, 40(2), 115-128.

Gherardi S. (2009b), Knowing and Learning in Practice-Based Studies: An Introduction, in Gherardi S. (Eds.), *The Learning Organization*, 16(5), 352–359.

Gherardi S. (2011), Organizational Learning: The Sociology of Practice, in Easterby-Smith M., Lyles, M. A. (Eds.), *Handbook of Organizational Learning and Knowledge Management* (2nd ed.), 43-65.

Gherardi S. (2016), To Start Practice Theorizing Anew: The Contribution of the Concepts of Agencement and Formativeness, *Organization*, 23(5), 680–698.

Gherardi, S. Nicolini D. (2000), To Transfer is to Transform: The Circulation of Safety Knowledge, *Organization*, 7(2), 329–348.

Gherardi S. Nicolini D. (2002), Learning the Trade: A Culture of Safety in Practice, *Organization*, 9(2), 191–223.

Gherardi S., Nicolini D., Odella F. (1998), Toward a Social Understanding of How People Learn in Organizations, *Management Learning*, 29(3), 273-297.

Gherardi S., Perrotta M. (2014), Between the Hand and the Head: How Things Get Done, and How in Doing the Ways of Doing are Discovered. *Qualitative Research in Organizations and Management: An International Journal*, 9(2), 134-150.

Giddens A. (1984), *The Constitution of Society*, Polity Press, Cambridge, UK.

Gioia D.A., Corley K.G., & Hamilton A.L. (2013), Seeking qualitative rigor in inductive research: Notes on the Gioia methodology, *Organizational Research Methods*, 16(1), 15-31.

Gioia D.A., Nag R., Corley K.G. (2012), Visionary Ambiguity and Strategic Change: The Virtue of Vagueness in Launching Major Organizational Change, *Journal of Management Inquiry*, 21(4), 364-375.

Glaser B.G., Strauss A.L. (1967), *The Discovery of Grounded Theory: Strategies for Qualitative Research*, Aldine Transaction, New Jersey.

Grant A.M., Ashford S.J. (2008), The Dynamics of Proactivity at Work, *Research in Organizational Behaviour*, 28, 3–34.

Grootenboer P., Edwards-Groves C., Choy S. (2017), Practice Theory and Education: Diversity and Contestation, in Grootenboer P. Edwards-Groves C., Choy S. (Eds.), *Practice Theory Perspectives on Pedagogy and Education: Praxis, Diversity and Contestation*, Springer, Singapore, 1-22.

Hammersley M., Atkinson P. (2007), *Ethnography: Principles in Practice* (3rd Ed.), Taylor and Francis e-Library.

Handley K., Clark T., Fincham R, Sturdy A. (2007), Researching Situated Learning: Participation, Identity and Practices in Client-Consultant Relationships, *Management Learning*, 38(2) 173-191.

Handley K., Sturdy A., Fincham R. (2006), Within and Beyond Communities of Practice: Making Sense of Learning through Participation, Identity and Practice, *Journal of Management*, 43(3), 641–653.

Hager P., Johnsson M.C. (2012), Collective learning practice, in Hager P., Lee A., Reich A. (Eds.), *Practice, learning and change*, Springer, Netherlands, 249-265.

Hansen H. (2006), The Ethnonarrative Approach, *Human Relations*, 59(8), 1049-1075.

Hardy C., Phillips N., Clegg S. (2001), Reflexivity in Organization and Management Theory: A Study of The Production of the Research Subject, *Human Relations*, 54(5), 531-560.

Haughton C. (2017), IMO Model Courses – Do We Have a Problem? Are 'Model Courses Stifling New Developments in Training?' *Seaways: The International Journal of the Naitucal Institute*, July 2017, 25-26.

Heidegger M. (1996), *Being and Time: A Translation of Sein Und Zeit*, SUNY Press, New York.

Heizmann H. (2011), Knowledge Sharing in a Dispersed Network of HR Practice: Zooming in on Power/Knowledge Struggles, *Management Learning*, 42(4), 379–393.

Hennerz U. (2003), Being There... and There... and There! Reflections on Multi-Site Ethnography, *Ethnography*, 4(2), 201-216.

Hildreth P., Kimble C., Wright, P. (2000), Communities of Practice in the Distributed International Environment, *Journal of Knowledge Management*, 4(1), 27-38.

Hislop D. (2008). Conceptualizing knowledge work utilizing skill and knowledge-based concepts: The case of some consultants and service engineers. *Management Learning*, 39(5), 579-596.

Hislop D., Newell S., Scarbrough H., Swan J. (2000), Networks, Knowledge and Power: Decision Making, Politics and the Process of Innovation, *Technology Analysis & Strategic Management,* 12(3), 399-411.

Hodges D.C. (1998), Participation as Dis-identification with/in a Community of Practice, *Mind, Culture, and Activity*, 5(4), 272-290.

Hopwood N. (2016), Introduction, in *Professional Practice and Learning* (3-16), Springer International Publishing, New York.

Høyrup S. (2004), Reflection as a Core process in Organizational Learning. *Journal of Workplace Learning*, 16(8), 442-454.

Hui A., Schatzki, T., Shove E. (2016), Introduction,in Hui A., Schatzki, T., Shove E. (Eds.), *The Nexus of Practices: Connections, Constellations, Practitioners*. Taylor & Francis, 1-7.

Hutchins E. (1995), *Cognition in The Wild*, MIT Press, Cambridge MA.

Hutchins E. (1993/2010), 'Learning to Navigate' in Chaiklin S., Lave J. (Eds.), *Understanding Practice*, Cambridge University Press, Cambridge, 35–63.

Ibarra H. (1999), Provisional Selves: Experimenting with Image and Identity in Professional Adaptation, *Administrative Science Quarterly*, 44(4), 764-791.

Ibarra, H. (2004). *Working identity: Unconventional strategies for reinventing your career*. Harvard Business Press. Brighton MA.

International Maritime Organization (n.d.), *Introduction to IMO*, Http://Www.Imo.Org/About/Pages/Default.Aspx, visited on, 17.11. 2016

International Maritime Organization (2011), *International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, (STCW) 1978, as amended in 1995/2010.* London, UK.

International Transport Workers Federation (n.d.), *Safety*, http://www.itfseafarers.org/ITI-safety.cfm visited on 11. 02. 2016

Jahn J.L., Myers K.K. (2015), When Will I Use This? How Math and Science Classes Communicate Impressions of STEM Careers: Implications for Vocational Anticipatory Socialization, *Communication Studies*, 66(2), 218-237.

Jarzabkowski P. (2003), 'Strategic Practices: An Activity Theory Perspective on Continuity and Change, *Journal of Management Studies*, 20(1), 23-55.

Johnston D. H. (2015), 'Sitting Alone in the Staffroom Contemplating My Future': Communities of Practice, Legitimate Peripheral Participation and Student Teachers' Experiences of Problematic School Placements as Guests, *Cambridge Journal of Education*, 46(4), 533-551.

Johri A. (2011), The Socio-Materiality of Learning Practices and Implications for The Field of Learning Technology, *Research in Learning Technology*, 19(3), 207-217.

Jordan S., Messner M., Becker A. (2009), Reflection and Mindfulness in Organizations: Rationales and Possibilities for Integration, *Management Learning*, 40(4), 465-473.

Kahvechi E., Lane T., Sampson H. (2001), *Transnational Seafarer Communities*, Seafarers International Research Center, Cardiff.

Kakavelakis K., Edwards T. (2012), Situated Learning Theory and Agentic Orientation: A Relational Sociology Approach, *Management Learning*, 43(5), 475–494.

Keevers L., Treleaven L. (2011), Organizing Practices of Reflection: A Practice-based Study, *Management Learning*, 42(5), 505-520.

Kellogg K.C. (2011), Hot Lights and Cold Steel: Cultural and Political Toolkits for Practice Change in Surgery, *Organization Science*, 22(2), 482-502.

Kemmis S. Wilkinson J., Edwards-Groves, C. Hardy I., Grootenboer P. Bristol L. (2014), Praxis, Practice and Practice Architectures, in Kemmis S. Wilkinson J., Edwards-Groves, C. Hardy I., Grootenboer P. Bristol L. (eds.), *Changing Practices, Changing Education*, Springer, Singapore, 25-41.

Kish-Gephart J.J., Detert J.R. Treviño, L.K., Edmondson, A.C. (2009), Silenced by Fear: The Nature, Sources, and Consequences of Fear at Work, *Research in Organizational Behaviour*, 29, 163-193.

Konopaski M., Jack S., Hamilton E. (2015), How Family Business Members Learn About Continuity, *Academy of Management Learning and Education*, 14(3), 347-364.

Langley A., Tsoukas H. (2017), Introduction, in Langley A., Tsoukas H. (Eds.), *Sage Handbook of Process Organization Studies*. Sage Publication Ltd., London, 1-26.

Lave J. (1988), *Cognition in Practice*, Cambridge University Press, Cambridge.

Lave J. (1991), Situating Learning in Communities of Practice, in Resnick L.B., Levine J.M., Teasley S.D. (Eds.), *Perspectives on Socially Shared Cognition*, American Psychological Association, Washington D.C., 63-82.

Lave J. (1993/2010), The Practice of Learning, in Chaiklin S., Lave J. (Eds.), *Understanding Practice: Perspectives on Activity and Context*, Cambridge University Press, Cambridge, 3-32.

Lave J. (1996), Teaching, as Learning, in Practice, *Mind, Culture, and Activity*, 3(3), 149-164.

Lave J. (2011), *Apprenticeship in Critical Ethnographic Practice: The Lewis Henry Morgan Lectures/1993,* University of Chicago Press, London.

Lave J., Wenger E. (1991), *Situated Learning Legitimate Peripheral Participation*, Cambridge University Press, Cambridge, UK.

Levine M. (1975), *A Cognitive Theory of Learning: Research on Hypothesis Testing*, Lawrence Erlbaum, New Jersey.

Levina N., Orlikowski, W.J. (2009), Understanding Shifting Power Relations Within and Across Organizations: A Critical Genre Analysis, Academy *of Management Journal*, 52(4), 672-703.

Lindberg O., Rantatalo O. (2015) Competence in Professional Practice: A Practice Theory Analysis of Police and Doctors, *Human Relations,* 68(4), 561–582.

Lindkvist L. (2005), Knowledge Communities and Knowledge Collectives: A Typology of Knowledge Work in Groups, *Journal of Management Studies* 42(6), 1189-1210.

Mack K.S. (2007), Senses of Seascapes: Aesthetics and The Passion for Knowledge, *Organization*, 14(3), 373 – 390.

MacIntyre A. (1985), *After Virtue: A Study in Moral Theory*, Duckworth, London.

Macpherson A. (2013), Translating Strategy into Practice: The Role of Communities of Practice, *Journal of Strategy and Management*, 6(3), 265–285.

Marchand T.H. (2008), Muscles, Morals and Mind: Craft Apprenticeship and the Formation of Person, 56(3), 245-271.

Marcus G.E. (1995), Ethnography In/Of the World System: The Emergence of Multi-Sited Ethnography, *Annual Review of Anthropology*, 24(1), 95-117.

Merleau-Ponty, M. (1962), *The Phenomenology of Perception*, RKP, London.

Michel A. (2011), Transcending Socialization: A Nine-Year Ethnography of The Body's Role in Organizational Control and Knowledge Workers' Transformation, *Administrative Science Quarterly*, 56(3), 352 -368.

Mørk B.E., Aanestad M., Hanseth O., Grisot M. (2008), Conflicting Epistemic Cultures and Obstacles for Learning Across Communities of Practice, *Knowledge and Process Management*, 15(1), 12–23.

Nicolini D. (2007), Stretching Out and Expanding Work Practices in Time and Space: The Case of Telemedicine, *Human Relations*, 60(6), 889-920.

Nicolini D. (2009), Articulating Practice through the Interview to the Double, *Management Learning*, 40(2), 195-212.

Nicolini D. (2010a), Zooming In And Out: Studying Practices by Switching Theoretical Lenses and Trailing Connections, *Organization Studies*, 30(12), 1391–1418.

Nicolini D. (2010b), Medical Innovation as a Process of Translation: A Case from The Field of Telemedicine, *British Journal of Management*, 21(4), 1011-1026.

Nicolini D. (2011), Practice as the Site of Knowing: Insights from the Field of Telemedicine, *Organization Science*, 22(3), 602 – 620.

Nicolini D. (2013), *Practice Theory, Work and Organization*, Oxford University Press, Oxford.

Nicolini D., Monteiro P. (2017), The Practice Approach: Praxeology of Organizational and Management Studies, in Langley A., Tsoukas H. (Eds.), *Sage Handbook of Process Organization Studies*, Sage Publication Ltd., London, 110 – 126.

Oborn E., Dawson S. (2010). Learning across Communities of Practice: An Examination of Multidisciplinary Work, *British Journal of Management*, 21(4), 843–858.

Orlikowski W.J. (2002), Knowing in Practice: Enacting a Collective Capability in Distributed Organizing, *Organization Science*, 13(3), 249–273.

Orlikowski W.J. (2009), The Sociomateriality of Organisational Life: Considering Technology in Management Research, *Cambridge Journal of Economics*, 34(1), 125-141.

Orlikowski W.J., Yates J. (2002), It's about Time: Temporal Structuring in Organizations, *Organization Science*, 13(6), 684-700.

Orlikowski W.J., Scott, S.V. (2008), Sociomateriality: Challenging the Separation of Technology, Work and Organization, *Academy of Management Annals*, 2(1), 433-474.

Orr J.E. (1996), *Taking About Machines: An Ethnography of a Modern Job*, Cornell University Press, Ithaca, New York.

Østerlund C., Carlile P. (2005), Relations in Practice: Sorting through Practice Theories on Knowledge Sharing in Complex Organizations, *Information Society*, 21(2), 91-107.

Parolin L.L., Mattozzi, A. (2014), Reprint of Sensitive Translations: Sensitive Dimension and Knowledge Within Two Craftsmen's Workplaces, *Scandinavian Journal of Management*, 30(3), 292–305.

Pfeffer J., Fong C.T. (2002), The End of Business Schools? Less Success Than Meets the Eye, *Academy of Management Learning & Education*, 1, 78-95

Plutchik R. (2003), *Emotions and Life: Perspectives from Psychology, Biology and Evolution*, American Psychological Association, Washington, DC.

Pyrko I., Dorfler V., Eden C. (2016), Thinking together: What makes Communities of Practice Work?, *Human Relations*, 70(4), 1–21.

Raelin J.A. (1997), A Model of Work Based Learning, *Organization Science*, 8(6), 563-578.

Raelin J. A. (2001), Public Reflection as the Basis of Learning, *Management Learning*, 32(1), 11-30.

Ribeiro R. (2007), The Language Barrier as an Aid to Communication, *Social Studies of Learning*, 29(2), 183-200.

Ribeiro R. (2012), Levels of Immersion, Tacit Knowledge and Expertise, *Phenomenology and the Cognitive Sciences*, 12(2), 367-397.

Ribeiro R. (2013), Tacit knowledge management, *Phenomenology and the Cognitive Sciences*, 12(2), 337-366.

Ribeiro R., Lima F.P. (2015), The Value Of Practice: A Critique Of Interactional Expertise., *Social Studies of Science*, 46(2), 282–311.

Ronfeldt M., Grossman P. (2008), Becoming a Professional: Experimenting with Possible Selves in Professional Preparation, *Teacher Education Quarterly*, 35(3), 41-60.

Rouse J. (2001), Two Concepts of Practice, in Schatzki T.R., Knorr Cetina K., Von Savigny E. (Eds.), *The Practice Turn in Contemporary Theory*, Routledge, London, 198-208.

Rouse J. (2006), Practice Theory, in Gabbay D.M., Thagard P., Woods J. (Eds.), *Handbook of the Philosophy of Science Issue 15: Philosophy of Anthropology and Sociology*, Elsevier, Amsterdam, 499-540.

Rubin H.J., Rubin I.S. (2005), *Qualitative Interviewing: The Art of Hearing Data* (2nd Ed.), Sage Publications Inc., London.

Sampson H. (2013), *International Seafarers and Transnationalism in The Twenty-First Century*, Manchester University Press, Manchester.

Sampson H., Bloor M. (2007), When Jack Gets Out of the Box: The Problems of Regulating a Global Industry, *Sociology*, 41(3), 551–569.

Sampson H., Tang L. (2015), Strange Things Happen at Sea: Training and New Technology in a Multi-Billion Global Industry, *Journal of Education and Work*, 1–15.

Sampson H., Thomas M. (2003), Risk and Responsibility, *Qualitative Research*, 3(2), 165-189.

Sandberg J., Tsoukas H. (2011), Grasping the Logic of Practice: Theorizing Through Practical Rationality, *Academy of Management Review*, 36(2), 338-360.

Sandberg J., Pinnington A.H. (2009), Professional Competence as Ways of Being: An Existential Ontological Perspective, *Journal of Management Studies*, 46(7), 1138-1170.

Sapir A., Drori I., Ellis S. (2016), The Practices of Knowledge Creation: Collaboration Between Peripheral and Core Occupational Communities, *European Management Review*, 13(1), 19–36.

Schatzki T.R. (1996), *Social Practices: A Wittgensteinian Approach to Human Activity and The Social*, Cambridge University Press, Cambridge.

Schatzki T.R. (2001), Practice Mind-Ed Orders, in Schatzki T.R., Knorr Cetina K., Von Savigny E. (Eds.), *The Practice Turn in Contemporary Theory*, Routledge, London, 50-62.

Schatzki T.R. (2002), *The Site of The Social: A Philosophical Account of The Constitution of Social Life and Change*, Penn State Press, University Park PA.

Schatzki T.R., (2005), Peripheral Vision: The Sites of Organizations, *Organization Studies*, 26(3), 465–484.

Schatzki T.R. (2009), Timespace and the Organization of Social Life, in Shove, E., Trentmann, F., Wilk, R. (Eds.), *Time, Consumption And Everyday Life: Practice, Materiality And Culture*, Oxford, Berg,

Schatzki T.R. (2012), A Primer on Practices, in J. Higgs, R. Barnett, S. Billett, M. Hutchings, F. Trede (Eds.), *Practice-Based Education: Perspectives and Strategies*, Sense, Rotterdam, 13-26.

Schatzki T.R. (2017), Practices and Learning, in Grootenboer P. Edwards-Groves C., & Choy S. (Eds.), *Practice Theory Perspectives on Pedagogy and Education: Praxis, Diversity and Contestation*, Springer, Singapore, 23-44.

Schön D. (1983), *The Reflective Practitioner*, Basic Books, New York

Scribner S., Cole M. (1978), Literacy without Schooling: Testing for Intellectual Effects, *Harvard Educational Review*, 48(4), 448-461.

Seirafi K. (2013), *Organizational Epistemology: Understanding Knowledge in Organizations*, Springer Science & Business Media, London.

Shotter J., Tsoukas H. (2014), Performing Phronesis: On the Way to Engaged Judgment, *Management Learning*, 45(4), 377-396.

Shove E. (2009), Everyday Practice and the Production and Consumption of Time, in Shove, E., Trentmann, F., Wilk, R. (Eds.), *Time, Consumption and Everyday Life: Practice, Materiality And Culture*, Berg, Oxford, 17-33.

Silverman D. (2006), *Interpreting Qualitative Data: Methods for Analyzing Talk, Text, And Interaction*, Sage Publication Inc., London.

Sommer M., Nja O. (2011), Learning amongst Norwegian Fire-Fighters, *Journal of Workplace Learning*, 23(7), 435–455.

Stake R.E. (2005) Qualitative Case Studies, in Denzin N. K., Lincoln Y.S. (Eds.), *Sage Handbook of Qualitative Research* (3ʳᵈ. Ed.), Sage Publications Inc., London, 443-466.

Strati A. (2007), Sensible Knowledge and Practice-based Learning, *Management Learning,* 38(1), 61-77.

Strauss A., Corbin J. (1998), *Basics of Qualitative Research Techniques*, Sage Publications, London.

Suchman L.A. (2007), *Human—Machine Reconfigurations: Plans and Situated Actions,* Cambridge University Press, Cambridge.

Suddaby R. (2006), From the Editors: What Grounded Theory Is Not, *Academy of Management Journal*, 49(4), 633-642.

Swan J., Newell S., Nicolini D. (2017) Introduction – Knowledge Mobilization in Healthcare, in Swan J., Newell S., Nicolini D. (Eds.) *Mobilizing Knowledge in Healthcare: Challenges for Management and Organization*, Oxford University Press, Oxford, 1-18.

Thomas D. R. (2006), A General Inductive Approach for Analyzing Qualitative Evaluation Data, *American Journal of Evaluation,* Vol. 27, No. 2, pp. 237-246

Thomas M., Sampson, H., Zhao, M. (2003), Finding a Balance: Companies, Seafarers and Family Life, *Maritime Policy & Management*, 30(1), 59–76.

Tsoukas H. (2009), A Dialogical Approach to the Creation of New Knowledge in Organizations, *Organization Science*, 20(6), 941-957.

Tsoukas H., Vladimirou E. (2001), What is Organizational Knowledge?, *Journal of Management Studies*, 38(7), 973- 993.

Tanggaard, L. (2007), Learning at Trade Vocational School and Learning at Work: Boundary Crossing in Apprentices' Everyday Life, *Journal of Education and Work*, 20(5), 453–466.

Van Maanen J. (2006), Ethnography then and now, *Qualitative Research in Organizations and Management: An International Journal*, 1(1), 13-21.

Van Maanen J. (2011), Ethnography as Work: Some Rules of Engagement, *Journal of Management Studies*, 48(1), 218- 234.

Van Maanen J., Kolb D. (1983), The Professional Apprentice: Observation on Fieldwork Roles in Two Organizational Settings, in Bacharach S.B. (Eds.), *Perspectives in Organizational Sociology*, Jai Press, Greenwich, 1-33.

Watson M. (2016), Placing Power in Practice, in Hui A., Schatzki, T., Shove E. (Eds.), *The Nexus of Practices: Connections, Constellations, Practitioners*, Taylor & Francis, Abingdon, 169-182.

Watson M. (2017), Practice Theory and Power*, presented at, *Advanced Workshop on Practice-Based Studies 2017 Edition*, University of Warwick, Warwick Business School, Coventry, 26-29 June 2017.

Watson T.J. (2012), Making Organizational Ethnography, *Journal of Organizational Ethnography*, 1(1), 15-22.

Weick K. (2003), Theory and Practice in the Real World, in Tsoukas H., Knudsen C. (Eds.), *The Oxford Handbook of Organization Theory*, Oxford University Press, Oxford, 453–75.

Wenger E.C. (1998), *Communities of Practice: Learning, Meaning and Identity*, Cambridge University Press, Cambridge.

Wenger E.C. (2000). Communities of practice and social learning systems. *Organization*, 7(2), 225-246.

Wenger E.C. (2009), Communities of Practice and Social Learning System: The Career of a Concept, in Blackmore C. (Eds.), *Social Learning Systems and Communities of Practice*, Springer, Milton Keynes, 179-198.

Wenger E.C., Snyder W.M. (2000), Communities of Practice: The Organizational Frontier, *Harvard Business Review*, January-February 139-145.

Yakhlef A. (2010), The Corporeality of Practice-Based Learning, *Organization Studies*, 31(4), 409–430.

Yanow D. (2004), Translating Local Knowledge at Organizational Peripheries, *British Journal of Management*, 15(S1), 9–25.

Yanow D. (2006), Talking about Practices: On Julian Orr's Talking about Machines, *Organization Studies*, 27(12), 1743–1756.

Yanow D., Tsoukas H. (2009). What is Reflection-in-action? A Phenomenological Account, *Journal of Management Studies*, 46(8), 1339-1364.

Zukas M., Kilminster S. (2014), The Doctor and the Blue Form: Learning Professional Responsibility, in Fenwick T., Nerland M., (Eds.), *Reconceptualising Professional Learning: Sociomaterial Knowledges,*

Appendix A – Research Access Information

Consent Form

Participant identification number where applicable

<div style="border:1px solid black; width:300px; height:30px;"></div>

CONSENT FORM
Title of Project: In Transition: An Exploration of Learning as Legitimate Peripheral Participation in a Community of Practice
Name of Researcher: Ila Bharatan
Name of Lead Supervisor: Jacky Swan
Date:

Please initial box

I confirm I have read and understand the information sheet dated [01/10/14] for the above study. I have had the opportunity to consider the information, ask questions of a member of the research team and have had these answered satisfactorily. ☐

I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. ☐

I understand that that my information will be held and processed for the following purposes: to be analyzed by the researcher for the purposes of completing their PhD research and, where relevant, for the writing of associated academic journal articles or monographs ☐

I agree to take part in the above named study and I am willing to be interviewed and have my interview audio/video recorded. ☐

_____   _____   _____

Name of participant   Date   Signature

_____   _____   _____

Name of Researcher   Date   Signature
Project Information Sheet

Researcher: Ila Bharatan (ila.bharatan.13@mail.wbs.ac.uk)

Supervisor: Jacky Swan (jacky.swan@wbs.ac.uk) & Eivor Oborn (eivor.oborn@wbs.ac.uk)

<h1 style="text-align:center"><u>Project Information Sheet</u></h1>

Essential Information

This is a research project investigating the period of transition as new comers in a community of practice go through the process of learning as legitimate peripheral participation to become full members. The project involves conducting a 9 month ethnographic study at Maritime Institutions in order to interview, and observe sailors as they move along their career trajectories. Your organization has agreed to take part in the study and this document will explain what is being done and what it may involve.

What is the purpose of the study?

Your involvement in this project will help to explore how cadets develop seafaring competency, the debate and tensions between onshore and on board training to see how individuals interact in such scenarios and influence of the experts in the COP, trainers, teachers and captains on the participation and learning of the cadets

Do I have to take part?

Your participation in this project is entirely voluntary. You may withdraw from participating in this project at any time, with no negative consequence to yourself or the organisation for which you work.

What will happen if I agree to take part?

Participation in this project will involve being interviewed by the above named researcher on the theme of developing skills and practices as cadets transition to becoming captains.

What are the possible risks of taking part?

It is not expected that you will experience any risks through participating in this project. Data will be anonymised from the start, with no names or specific

positions recorded as part of the interview material. Your consent form will be stored in a locked office at the University of Warwick, and transcripts of interview data will be anonymised before being printed and stored in the same place. The transcripts will also be stored electronically on the lead researcher's password-locked laptop. All material will be destroyed after 10 years from the completion of the research. The material from this research may be published. You can request a copy of the publication from the researcher named above

What are the benefits of taking part?

Your participation in the present study encourages an evaluation of the curriculum in order to make it more relevant for the transitions that you encounter in your careers as you progress through it. Should you have any further questions about this research, please contact Ila Bharatan (ila.bharatan.13@mail.wbs.ac.uk) or Jacky Swan (jacky.swan@wbs.ac.uk). You may also contact the WBS Research Office should you have wish to make a complaint about the conduct of the researcher: Farat.Ara@wbs.ac.uk.

Appendix B Raw Data Samples

Interview Sample

I: Can you tell me a little bit about yourself?

I5-C3: [gives his name and details where he comes from]

I: Why did you get into shipping and how?

I5-C3: Maybe I was amazed by how the shipping company or shipping organisation works, shipping economy.

I: How did you learn about it?

I5-C3: Well, I have a lot of relatives and a lot of friends that are, were involved in the seafaring …

I: Okay. So, you were already aware of what, generally what it means to be a seafarer.

I5-C3: Yes, since I was a kid.

I: Okay. Any family members who are also seafaring?

I5-C3: No, only me. I am the person to go to the sea.

I: Okay. And what has it been like for you, your experience so far.

I5-C3: My first year on board was not exactly what I wanted. Everything is different from what I am taught and from what I am learning here. What are the practice on board. Everything is different.

I: Can you give me an example?

I5-C3: For example, when we were studying this from the college we were expecting that everything will be hard but somehow through the trainings and through the familiarisation, everything has got, is easy. It's easy to understand.

I: Okay. So, it wasn't as difficult as you thought it would be?

I5-C3: Yeah.

I: And what else, what was your experience like on board the first time? Did you feel well prepared for it or were things done differently within how you thought they would be done?

I5-C3: Truly it was hard that first time because I thought this is going to be yeah, I, from what my experience is I expect that everything will be hard and it is hard at the first time but through constant time and through time that you will be doing the job and you will be experiencing it then you will get through it.

I: So, can you remember your first days on board?

I5-C3: My first day on board when I came I go directly to the job.

I: Oh, so you started on the first day itself?

I5-C3: Yes, the moment I arrived, changed my clothes, did a duty, worked.

I: Okay. And what kind of work did they make you do?

I5-C3: I stayed on the gangway, gangway watchman, the security of the ship.

I: Okay, okay. And before did you get familiarisation or …

I5-C3: Yeah, yeah. That was the chief officer he the moment that I wake up from the rest he called me and then he gave me the familiarisation around the ship.

I: Okay. And then you started working on the gangway?

I5-C3: Yeah.

I: And was that what you expected to do when you first went on board?

I5-C3: Yes, somehow because I heard already stories from the previous cadets that came back. I asked them what their experience is, some of them talked.

I: Okay. And what was it like, did it get easier to deal with it or does it just get progressively easier the way to … What was difficult and what was easier about it.

I5-C3: It became progressively easier because somehow people will help you to overcome the difficulties.

I: Can you give me an example?

I5-C3: For example, my colleagues in the ship, my co-workers they helped me with everything that I don't understand. For example, I happen to ask something that I don't know, they will help me so.

I: Do you remember any stories from …

I5-C3: Stories? Mostly techniques and special, their expertise, they share it to me.

I: Do you remember anything that they taught you? Like did they teach you rope work, and if so what was that like or did they teach you any how to work as watchman on the bridge. I want as much detail as you can give me.

I5-C3: For the first time, it was Saturday I came to the bridge to study then I was amazed about the equipment because I just, I had seen on the simulator is different from the actual bridge so I asked the second officer so he showed me around, teach me everything I need to know.

I: Okay. And what did you need to know?

I5-C3: For example, the areas that I don't have to touch. For example, this one, this is very difficult or this is out of my current position, this is not something that I cannot operate yet. So, he gave me familiarisation. This is what is this, this is the rudder, this is the steering gear, the radar.

I: So, what kind of work were you expected to do on the bridge?

I5-C3: Well, I am expected for as a cadet to learn everything and become, to have a duty with an officer and learn what they are doing and become familiarized with the job.

I: So, did they let you operate any of the equipment?

I5-C3: No, because it's this in the company's preference is somehow we cannot operate yet. Because we are new. But somehow later on after a few months I've been operating some of the systems.

I: So how did that come about? How did they start letting you work on the equipment?

I5-C3: Well, I showed them that I can operate this equipment and I showed them that I can manage, I understand what I am doing and I am very careful to do what they're doing and very attentive to what they are doing.

I: And how did you show them that? Do you remember any specific examples of when you realized that you had done something well or they asked you to show them what you could do? How did that work?

I5-C3: I voluntarily come to the bridge every weekend. I come to there. I come and then do something, help, ask what I can do and then they turn, they gave me the permission.

I: That's true. And what was it like for you living on the ship?

I5-C3: Well, it's pretty normal. It's just somehow you get homesick. That is very normal for the first time. You get homesick at first but when you don't think about the people here in the village, your family, you just focus on yourself because that's, you're the only you have yourself in the on board so you have to focus on yourself and be, what can I say is, be relying on yourself or take care of yourself and think about nothing else for me. What I did is I don't think about the family, my family here in the Philippines, I think about myself, so I can go home safely.

I: And how did you stay in touch with the family? Did you stay in touch with the family?

I5-C3: Yes. Whenever I, we get in the port and we get a chance to text or call we did.

I: And what was the main area that you sailed in?

I5-C3: Mostly in Brazil.

I: So, did you go ashore?

I5-C3: Hmm, often.

I: And what was that like for you?

I5-C3: I didn't really enjoy it that much because after work you go to the shore and come back, I go to the supermarket to buy something and come back to the ship and then go back to sleep and then come back again to work.

I: And have you noticed a change in the way that you learn now that you've been to sea?

I5-C3: Yes. I can understand most of the things that they're teaching here. Everything is related to what I have experienced and everything is absorbed and I can fully understand what they are talking now.

I: What was it like before? Can you give me a comparison of what it was like before and after you've been to sea?

I5-C3: Well, before I get on board everything that they tell me I will just say yes, yeah, that's, yes, because I don't know anything about what they're talking about. I don't know the experience, the practice and everything I don't know. But like now that I have experienced what they are talking about, if they are talking something that is not, I know that is different from what I have experienced I can relate, I can tell them. It's not something that I have learned, it's different from what we've learned so we can compare everything, the knowledge before and the knowledge from now, that kind of conversation.

I: And did you ask a lot of questions when you were at sea?

I5-C3: Yeah, mostly from my officers and they were annoyed. [laughs]

I: So, was that difficult to then ask them questions after they were annoyed the first time?

I5-C3: No. It's not really, because somehow, they are annoyed because they are somewhat tired to answer questions and was, they are willing to teach but somehow it is not applicable to the job so.

I: Can you explain that a little bit more?

I5-C3: For example, they are, I am going to ask them very obsolete item, this is this kind of matter is not really practiced in the seafaring for example, firefighting and that practice, then the officer will go oh, they've been, because we are not practising that anymore.

I: But was that something that you were interested in.

I5-C3: Yeah, really.

I: So, did you have to learn that, was that part of your training here?

I5-C3: Yeah, that is already part of the training here so what I've learned from here I've used somehow in the on board and it was … I found what they are used to working.

I: And what about the learning or the training that you did here? Was there something that you learned on board that was different from the training that you did here?

I5-C3: Actually, what I have learned is more advanced than what we are practising on board. Because here we are doing theories, everything, but in the practice everything is here.

I: So, did you find it difficult to come back from the sea and come back into the training here as well? Start back at school almost?

I5-C3: Yeah, at first it was hard to think, to imagine that I've already done something when you are at college and then you come up again and study, but it's this part of the path that we chose, that we need to learn, we are in one goal so it is somehow absorbed that this is what we wanted, this is where we need to, where we are supposed to be. So, it's something we cope with the adjustments to coming back.

I: And what was your work routine like when you were at sea?

I5-C3: During the weekdays at eight am we started working on the deck parts and then …

I: … What kind of work did you have to do at the deck work?

I5-C3: Mostly maintenance of the ship. So, I go with the crew, the boatswain and the ratings, we go to the deck, do maintenance jobs and after five in the afternoon we stop and then take our rest. That's what we do.

I: No breaks in between?

I5-C3: We have breaks around ten am, and then ten pm and then 15.00 to 15.30 and, we have lunch from 12.00 to 12.30.

I: So, it's very similar to here?

I5-C3: Yeah.

I: And what was it like working with the ratings?

I5-C3: It was happier. Because I have worked with the ratings that is my co-Filipinos so it was a little bit happier than working with the other nationalities because we can understand and we can communicate with our native language.

I: And did you learn from the ratings as well?

I5-C3: Yeah, mostly, everything that I've learned, doing the maintenance works and the decks works I have learned from them.

I: What kind of things did they teach you?

I5-C3: Different techniques of how to make easier, the job easier. For example, how to do the lashing with it being very easy, easy lashings.

I: Can you give me a little bit more detail on this?

I5-C3: The securing of the cargos on how to do properly, where to put this kind of lashing, what is the point that we are, we need to remember in lashing and …

I: So, what were points that you needed to remember when you were lashing?

I5-C3: Well, first we have to make sure that the cargo is not damaged with our lashing so we have to find the lashing points, how the angle affected the lashing.

I: And how do you find that out?

I5-C3: Well, it was happy, I was happy because it was different from the other friends now that I have learned that they come from different ships and I came from different ship. So, there's a differentiation and I can say that what I have been this something amazing that we have done. [laughs]

I: Excellent. So, when you did the work on the lashings then for example, what was it that they taught you that you learned from the crew that was different or how did they make it easier? How was it different from what you already knew?

I5-C3: Well, before I didn't know how to properly put the lashings on, where to put this, what to do with this. I didn't know about it. But after going with them, doing the lashings, I learned what they are doing and look

at them, follow what they're doing and everything is easier from what I am doing before.

I: So, when did you start noticing that it got easier to do certain tasks?

I5-C3: When I can say that I can, when I can do it like them, when I don't get tired easily, just with them. Because at first I get tired easily because I'm doing heavy jobs, lifting something, doing something, it's … I, I get tired easily, unlike them, I can see that they are so powerful in doing things. Later on, I can show them that I am just like them.

I: Did you spend time with them during lunch and dinner?

I5-C3: Yeah.

I: So, did you learn from their past experiences at sea?

I5-C3: Yeah, mostly, more, most of their experience are what they have experienced before, they give me tips for me to remember that they, the mistakes that they have made.

I: Can you give me an example?

I5-C3: Let me think about it. Maybe the one that they …

I: … Anything that you remember, anything that sticks out for you?

I5-C3: Would be money budgeting. It is very painful to hear that they have been on board for how many years but still they are going on board with no money left in the month. They didn't build anything, no business, no house, they are still just working and working and no savings. That's the one important lesson that I have learned from them.

I: How to budget money.

I5-C3: Yeah.

I: So that's something you're going to be very careful about?

I5-C3: Yeah, I am already.

I: And did you learn anything other than the technical work of how to do things on the bridge, did the officers teach you anything else? Did they talk to you about anything else?

I5-C3: Yeah, they told me how to plan about myself?

I: How do you mean?

I5-C3: How to plan what to do with my career. They told me what are the points and things that I have to do. They gave me tips that I have to do when I came back home. And that's what they probably, that's what they have said to me that I have to keep on studying and make sure that I take the exams and become an officer just like them and learn, and learn and learn just to become an officer.

I: Where do you see your career trajectory going?

I5-C3: Become captain.

I: You want to become a captain?

I5-C3: Yeah.

I: Do you talk to people outside of the school here about, outside the training center about what it means to be a seafarer and what the profession entails?

I5-C3: Truly, no.

I: Do you read any online journals about the industry or online publications?

I5-C3: Yes. As one reason that I have become a superior is what I have read before, I have an article that I read on how amazing the captain was on this ship. They were transiting in the canal the ship and there was a bridge and there is, ship is supposed to be hitting that bridge but somehow they didn't. I was amazed about how the captain did that.

I: Yeah, I remember this example. I read it today but I can't remember the name of the ship and then he used squat right, to make sure that the ship …

I5-C3: … that it will pass under the bridge. I was amazed by this. For me that story wow! I can do that.

I: And what are your favourite subjects here?

I5-C3: In here it's probably the ship handling and the stability entering was mostly, we are prepared, we prepare ourselves how to handle the ship to keep it afloat.

I: And why are they your favourite subjects?

I5-C3: Well, it keeps my mind open. It keeps my mind awake and it makes my brain hurts. You are awake, you are doing something and it is, you are hands on to what the officers are doing. So, we are doing what they are doing on board and we are learning what they are doing and their techniques we can copy their techniques on what they are doing.

I: And what are your least favourite subjects? Or the ones that you just think are not as useful as the others?

I5-C3: I think I'm not the only one with this, maths and physics.

I: Maths and physics. Okay. And why do you think they're not very useful.

I5-C3: Well, when we come on board we are not going to use the subject most probably, the theories and principles, everything is an enhancement on how to do the job, the calculations in work, yeah, this is helpful but the way that they're teaching it here I think that it is useful …

I: How do they teach I there? I haven't had a chance to sit in on one of those classes yet.

I5-C3: They teach very well, they are good at teaching maths and physics. They are very, very best and like the college they are hands on and everything. But when it comes to on board you are not going to do this kind of relation because everything on board is given to you and your understanding, you are, your understanding is the most important one, not these calculations on how to do the jobs.

I: So, your understanding of the principles is more important than knowing how to do the calculations is what you are saying?

I5-C3: Yeah.

I: And what is your favourite teaching style? Like is there a particular teacher or lecturer that you think teaches extremely well?

I5-C3: Well, I think it is the type that we are hands on the subject, hands on. They let us do what they are teaching. For like the calculations in the ship handling and stability entering they let us do what is written in there and they let us do the calculations, look for the information, make us

understand what we are doing so it give us interpretation job because learning is nothing without we are … Even though they are teaching it if we are not doing it we will not remember it.

I: Can I ask how the calculations you do in stability entering and ship handling are different from the calculations that you do just in the physics or maths?

I5-C3: Well, physics and maths are mostly on the … Hmm, what can I say … They are as a whole …

I: … In general.

I5-C3: Yeah, in general. But somehow in maths and physics they are teaching extra, I think, added formulas or added values in the formulas or something but in the stability entering you are exactly on that track. You don't need anything unless unlike this, only this formulas.

I: And have they explained to you why you are doing maths and physics here

I5-C3: Yeah. They told us to enhance ourselves in calculations, to prepare us for the calculations that we are encountering on this path that we have chosen.

I: And what is the teaching style that you really don't enjoy?

I5-C3: That would be the teacher talking, only talking.

I: Okay, so the typical lecture style?

I5-C3: Yeah, the typical lecture style, the teacher the only one talks and reads everything on the slides and the presentation that he is making. It's a little bit, you feel asleep.

I: And do you learn a lot also from the stories that they tell?

I5-C3: From the instructors the stories that they tell us, especially the superiors? Yeah, I learn everything because I am getting a view of their experience, their mistakes and their right doings so I have a … When I came to that position that situation that they have been, then I can easily imagine what they have done, what they have done and what they have experienced so I think that will help me a lot.

I: And do any of your teachers talk to you about their cadet days and what they went through in their training?

I5-C3: Yeah, mostly the same lesson, the same lessons.

I: Do you also spend a lot of time, because I know that you said that you talked to your seniors before you went on ship so that you had an idea of what was expected from you. Were they also seniors that are here now or seniors that you knew outside from your college or …

I5-C3: Seniors that I am, I have met here in this campus.

I: Ok, in terms of the training that you went through in the college was it the training that you got here, do you notice any difference in what you've learned?

I5-C3: Yeah. Different, very different because a lot of information, in college life, in the college I can say that not everything is not that elaborated to you. They will give you the topic, you will learn for yourself and you move on. And it is not calculated to remind, you are not very taught well that this is for this matter and like here they show how to do it, where is it for, and what is this for.

I: So, it becomes easier to understand why you're doing something.

I5-C3: Yeah.

I: And do you talk to your friends as well about what you've done in class?

I5-C3: Yeah. Well, mostly we are learning together. Because in in our room we are five people so it's like something that we don't know, we ask each other so it's easier to learn.

I: And five of you are all from the same block?

I5-C3: Yeah.

I: Same badge, same block?

I5-C3: Yeah.

I: And do you speak to your juniors as well?

I5-C3: Yeah, the first lot, they are, some of them are like they are asking what life they will be having on board.

I: So is it easy to answer their questions and tell them what they should expect?

I5-C3: Yes, somehow yes. I tell them that what I have experienced on my ship and what they should expect.

I: So can you tell me what … So pretend that I am a first year cadet asking you what you went through on the ship, can you tell me what you went through?

I5-C3: I'll say that don't expect too much talk for what you are … Because I know that they will expect that they will have a duty as a cadet, as a cadet they will be studying the bridge. But it will be different on board the ship. Most of them will be working on deck from morning to afternoon and like the others cadets will be given a time to duty on the bridge and work on deck for the half day. So it is different. It all depends on the luck of the cadet to its principal, to the ship that they will be boarding. So everything will be different than they are expecting.

I: What is your daily routine like here?

I5-C3: Here? Hmm. I have not much, I don't have anything much to do here. Just study during the day, wake up, study, go to the class, go back to the dorm, study again and then go to sleep.

I: And what about any physical exercise?

I5-C3: Yeah, from time to time we go to the gym, take exercise and every Saturday we do exercise here.

I: That's compulsory? No?

I5-C3: Not really. But we are asked to monitor our weight so we have to do exercise because we cannot go above the BMI that is required on the scales.

I: And do different companies have different instructions for you?

I5-C3: Yeah. Because I have been to different training centers and everything is different. I have friends also in the other companies with different training programs. What they are doing is different from here in Marlow.

I: How do you mean?

I5-C3: There they are doing this utility job, they are doing labor for them to be able to go on board. And like here in Marlow we are studying, we are studying, we are learning, they are teaching us, for us to be able to go on board. Them they are working as a utility.

I: So, when do you get to go home now?

I5-C3: After my contract, after this training.

I: After the training?

I5-C3: After the training, maybe March, I will end my training here in March so after a week maybe I'll go to my family.

I: And then you already have a ship that you will go on for the third …

I5-C3: Yes, I was already lined up for April 3.

I: And what do you expect from your time as a rating?

I5-C3: Well, everything will be, not much because I haven't seen, as a cadet there is not much difference with what I am doing to the ratings. Mostly the same so not much difference that I can imagine.

I: And what was your closest relationship on board?

I5-C3: What do you mean, closest relationship?

I: Who were you closest to, who did you get on with really well?

I5-C3: Ah, that would be my chief cook, almost all of the ratings, just, just one person that I have a fight with. Yeah.

I: And what was the fight about?

I5-C3: He didn't like me because somehow he, you can hear this from other superiors as well that all superiors are different, have different attitudes towards the new people, especially the cadets they are treating cadets as somehow different. So, and like the ratings, and like the ratings they are good ratings but as cadets they are hard because that's how they are trained. So, they are trying to train us hard as when just like what happened to them.

I: And those are the officers who you had …

I5-C3: No.

I: Another rating?

I5-C3: Another rating, that was our boatswain.

I: Okay. So the boatswain didn't like you. Oh God, that can't have been easy.

I5-C3: Yeah, I have been with him for almost nine months so my life on board didn't go well with him.

I: So what would he do, how would he make it known. How did you know that he did not like you?

I5-C3: Well, somehow he will look at you not so good. He will look at you with angry face every time. Although you are together but you can feel that he's not into you because something is different unlike the other ratings that you are happy together. Him, you cannot talk to him, you cannot have fun with him, that's the …

I: And did he ever talk to you about it or was it just by his actions that you realized …

I5-C3: It was just by his action and although he told me about it.

I: Oh, he told you.

I5-C3: Also, the other ratings will tell me that he didn't, he doesn't like me, he hates me because my attitude.

I: Why?

I5-C3: I was maybe I am happy to do the job. [laughs] So yeah, somehow he doesn't like enthusiastic cadets. Yeah.

I: And what was the attitude of the officers towards you?

I5-C3: My officers are great. They are very good to me. If something is different, um, they always ask me about what is happening to me and if I am okay and if there is a problem about me so they treat me very well.

I: What did you learn from them apart from the technical? And you mentioned that they taught you about, you know, how to be, that you should become like that and that you should pass your exams but did they teach you anything about life at sea, how to make things easier for yourself or you know, how to do things better or …

I5-C3: Well, my first day on board this was the question of my second officer for me, what are you doing here? You are young, you should go home. He said that was the first advice that I get from him. I should be enjoying my life here than not on the sea. So, from what he said to me I think what am I doing on the ship. So later on but still although he gave me that advice he accepted that I am there so he help me just continue my life on board and to progress.

I: Were you unsure or nervous about any part of your time at sea?

I5-C3: Please repeat?

I: Were you unsure?

I5-C3: Unsure?

I: Or nervous about any of your time at sea?

I5-C3: No, is, it's how I enjoy working there.

I: You just enjoy working there, great. Okay. And for you what does it means to be a competent seafarer, what would you tell me about that?

I5-C3: A competent seafarer? Well, I can say that I am competent because I have learned the things that are, what a superior must do. You know what you are going to do, what you need to do and you are equipped with the knowledge, you are equipped with the knowledge on how the things on board are done and somehow the trainings that they give us, they gave us here in the Marlow make us a competent cadet.

I: Do you, if you'd been to sea without the training here how do you think that would have gone?

I5-C3: Well, I would have no motivation to become a captain. Because here in Marlow they encourage us to become an officer, to become captain someday. So that's what's the difference in the college and here because in the college they didn't encourage us, just graduate and go to the sea. They won't help you progress in your life, in your career. So in here in the Marlow they always remind us that we have only path that is to become a captain.

I: And this is something that I've always been interested in knowing is you learn here and then you're expected to apply what you learn in a very different place, is it difficult to relate to the learning that you've done here to when you go to sea?

I5-C3: Actually no, not really, because everything that they are teaching here is what most probably we are doing on board the ship and somehow if you don't know anything on board the ship the captain will always be willing to help us.

I: So were there any instances where you didn't know what was going on?

I5-C3: Yeah. Somehow I don't know what they are doing with the cargo lashings, and I've asked what is this, what is that, so they explained to me what they are doing.

I: And what would you say was the most challenging or the most difficult aspect of your time at sea?

I5-C3: Hmm. That would be to stay awake and be alert. Because the job at the sea and somehow you don't sleep although we have many rules regarding this resource it is not followed because commercial pressure that they are talking about so that would be …

I: So you had ports quite close to each other and then you have to keep … Okay.

I5-C3: Yeah, that would be to be alert every time and manage your time, your rest hours that is the most difficult part, whether you choose to rest or your pleasure.

I: So what did you choose?

I5-C3: I choose to rest. [laughs]

I: And what about your time at the training center here. What has been the most challenging thing for you?

I5-C3: That would be the opening of every trainings. Every week we have different trainings and we are expecting something that is different from

what we have learned before, it is different training, it is different knowledge, it is exciting.

I: But challenging at the same time.

I5-C3: Yeah.

I: I think I'm done with my questions. Is there anything that I've forgotten or I've missed out that you feel is important that I should know?

I5-C3: Somehow no. You've asked everything.

I: Okay. Thank you so much for this.

[END OF RECORDING]

<u>Field Note Sample CCTC</u>

12/02/15 Ship handling CCTC day 16 2nd block with Captain R

I come late to class. They are talking about their assignment which involves defining ship hauling terms like gross tonnage, net tonnage, deadweight etc.

Simulator exercise briefing. They will first do it with the instructor and then by themselves. They have a container with a CPP (special propeller) - they are given the wind, current, sea conditions and visibility conditions. They start at 1200 and the exercise should last for 1 hour. They also need to know the wheel over point. The instructor asks why, they don't answer, he

says it's to know when to make the turn. They also have to do another sim exercise where they will be dealing with wind current and narrow channels. This sim will be done in the Bosporus channel. One of the objectives of this exercise is to see the effect of speed change. He asks them if they change the speed what will be the effect on the rudder. They answer but more mumble - less effective. They will also need to observe the effect of squat and other vessels in a narrow channel.

The 4th exercise is on a container with a normal engine and the 5th is emergency stop and emergency run manoeuvres in open sea. This manoeuvre is done usually as a part of a sea trail. Today's course is being done simultaneously along with management level officers who will be using the mini bridges.

The instructor asks them about man over board turns, Williamson, Anderson and there is some confusion in the class about whether they have done the elliptical turn.

He then asks them to remember their teams which were assigned by the other instructor. Each team has 3 cadets- OFFICER ON WATCH, helmsman, lo they will rotate their roles between exercises

He says that's all about the breeding notes and then asks them if they have done close loop communication. They say no, so he says that he will briefly go over these with them. He asks them what is the purpose of closed loop communication - they say - clarification, verification, right execution. AR says to avoid misinterpretation. He then demonstrates what closed loop communication sounds like. He also introduces them to KISS and reminds them to speak in English as most Marlow vessels have a mixed crew. They don't need to be fluent in English, just need to know enough to give clear commands.

There are 17 cadets in the class, including 4 I interviewed.

There is a break while he goes to set up the simulator.

We go into the sim room- he explains the equipment and what it does, what it used for and the different parts- fire panel, GMDSS, GPS, radar. He tells them how to operate the radar. The cadets are all huddled around the radar screen watching AR work on it. It shows them how to switch mode from day to night, how to acquire target, how to cancel. Then goes over the overhead console. He shows them the speedometer. The forward and aft speeds, the port and starboard speeds and says that this come in very handy during docking. He shows them how to use the control panel to manoeuvre the ship, change the speed and the different functions. For example, what to do in the case of emergency run or stop. He gives them an example where the main engine has and emergency or malfunctions. The system will automatically stop the functions to prevent further damage. But there is a way to bypass. The class then moves to the wheel. Where one of the cadets has volunteered to take the wheel. Capt. R goes to the main control panel shows them how to perform a certain function and gives the acting helmsman the heading 180. One of the cadets jokes target dead astern. They laugh. Capt. R asks them if they have received their ECDIS training. They haven't, so he quickly takes them through it. One he is done with that he gives the heading 175 and then 172. The helmsman tells Capt. R when he has reached the desired heading. Capt. R says steady, the helmsman repeats it. Capt. R takes this time to go over the cadet groupings, he then changes the grouping so

That it flows alphabetically there are 4 groups so far. He gives the helmsman commands - port to five, East to five. rudder to midship. The helmsman gives the signal passing 150 now. Then the command is given

port to 10, East to 5 , rudder mid ship, once each command is performed he moves to the next one, port 5, midship, port 10 midship, port 5, midship. rudder port 5 now sir. Ok thank you. Passing 110 now sir, ok thank you. AR is focused on the overhead panel helmsman says reaching 100. AR says ok midship. Says that just before it reaches the turn you can go to midship.

The first group starts- the others are standing at the back of the class. He positions each person to their station. And they start with the OFFICER ON WATCH giving the command and the helmsman following them. The others are talking around the group, discussing what they are doing among other things. Despite repeated coo ands to speak in English they change to Tagalog after appoint. They complete the manoeuvre. AR asks the 2nd group to standby so he can reposition the ship and restart the exercise.

The 2nd group starts the exercise. They first check the ECDIS which shows them the path they are supposed to take then the ECDIS screen is minimised and they are working without it. The helmsman is asked to 'come to course 188'. The OFFICER ON WATCH and LO (lookout) stand in the center of the bridge between the Central control panel and the helm. These are quick 5 min exercises. The 2nd group has done well. They seem happy with what the ECDIS path shows them. The 3rd group takes over. So far all the groups have followed the closed loop communication e.g. midship.

Midship.
Rudder at midship sir.
Ok thank you.

The fourth group takes over. The helmsman does not leave his station until the exercise is paused. Similar to Capt. D's exercise with the third years they are forming lazy S loops from what I can see on the ECDIS. The

fourth group starts. The OFFICER ON WATCH starts giving the commands, hard starboard, Capt. R asks if they have reached 20 degrees now. They say yes, the East to 10. And so it goes. There is no LO for this team just the OFFICER ON WATCH and helmsman. They are slightly off course but it's ok. Group 5 starts. This time it's Capt. R giving the orders, presumably trying to get the ship on course. He is using the ECDIS to check. The other members of the group are standing around him. Turns out there is only 1 person from the group. AR gives the countdown and he takes over. Then the next group takes over. The course given in 337, the helmsman over shoots and the heading is now 340. AR notices and tells the OFFICER ON WATCH. The OFFICER ON WATCH repeats the desired heading. The helmsman reaches it, and then the rest of the commands a are followed. You can tell the command has been followed by looking at the rudder angle on the overhead panel. The captain has done a really good job and AR compliments him, the rest of the class claps.

The next group sets up. The OFFICER ON WATCH gets his first command wrong saying port instead of starboard, he repeats the correct order and continue to give the commands. Then the last group takes over. The other groups are asked to take a break. There are 4 cadets in room now. The cadet standing closest to me had a patterned patch of cloth on his collar, I don't know if this indicates some position of this is just fashion. He other cadet are all in white collared half sleeve shirts, black trousers, black belts and polished black shoes. The shirts have wings with anchors in them along with a name tag on their front pockets the name tag reads their designation, last name and first name initials for e.g. O/S Smith J.

Break.
After the break we all reassemble in the sim room. They are going to try another manoeuvre called crash stop. To stop the vessel fast going from full ahead to full stern. This is a part of the sea trial, but also in case of

emergency. It can damage the engine. The principle behind the manoeuvre is that the engine revs will stop between moving clockwise (ahead) and moving anti clockwise (astern). They time this manoeuvre. But the system is not working, they start again p. This time using another piece of equipment. You can very quickly hear a change in the engine. It slows down. On the overboard panel the speed drops. While this is happening, the ship is still moving starboard. AR says in real life they would already start feeling heavy vibrations in the vessel. It takes 3 mins for the speed to move to 0. There is a discrepancy between the time it takes to the time recorded in the system. They go over the factors that affect the timing of the manoeuvre- wind current type of water, area, load, even barnacles etc.

Next, they go over the man overboard manoeuvres. AR goes over what the Williamson turn and Anderson turn entails. The go over the commands and process of manoeuvre- recorded.

First alter course to where person has fallen. Helm hard over to the side where person. Recorded. When you reach 3 points above the beam - what is the heading - discussion -

Capt. R goes over the procedure. The advantage of this is that you are always in sight of the casualty, doesn't work at night and one of the cadets says not enough sea room.

AR demonstrates the Williamson procedure. He first moves switches engines to forward. Gives the course headings to helmsman. He says that he will go outside and shout man over board and one of the cadets has to click the life ring symbol on the extreme left hand corner of the ECDIS. Over the radio, you hear him say ok standby. Then he says man over board, starboard side. He comes in and gives the command hard starboard. On the

screens, you can see the ship making a turn. Then AR gives the command shift your rudder.

[2:05:02] Recorded on the ECDIS you can note how the ship is turning. The ship is now turning to port making a 8 like loop. Once the loop is made AR says that they can start reducing the speed so that by the time they reach the person they will have almost stopped making it easier to lower the lifesaving equipment. They also have to broadcast a distress signal saying that they are rescuing a man over board -EMSA rules. He asks the cadets under what conditions they can use the Williamson turn - responses immediate, delayed, restricted visibility, night-time, bad weather, missing person.

The sim is stopped and restarted - while Capt. R is out of the room the cadets cluster in small group and discuss the manoeuvre. One of them goes over to the ECDIS to reset it. Another goes to stop the radar that is giving an emergency procedure. The simulation changes to night mode while still paused making the room almost pitch dark expect for the light from the equipment and my iPad. It switches back to daylight and Capt. R comes back he starts the next exercise. Demonstrating the Anderson turn. One of the cadets asks if you see a man overboard do you inform the captain before you execute the maneuver. Capt. R says yes, the captain should be on the bridge. But if the weather conditions Re bad, the water is cold etc. and the man over board has to be rescued immediately then the maneuver can be started. But both the captain and the engine room have to be informed, I miss the next part of the talk but AR says ship handling is not something that can be learned in a day, week, month or even a year. It takes practice, experience and knowledge. For calling the captain, they can call him any time if they are in doubt. They should also refer to the SMS.

The 2nd manoeuvre is called the Scharnow turn. It is used for a delayed mob pick up. The vessel has to move ahead at least 1 mile before the turn can be executed otherwise the vessel will not return to the original area. The cadets discuss what heading they should aim for. AR says HRD port and asks the helmsman to report the heading every 10 degrees. The helmsman follows the command reporting in every 10-degree change. Every time the helmsman States the command AR acknowledges it with a thank you. Once the reach 270 you can see the mob signal outside. The ship turns now so that the mob goes from port to starboard side. Once the heading is 210 AR says shift your rudder, hard starboard now. The ship starts moving to starboard now. The heading goes back up to 220 once it reaches 250 AR says midship asks the helmsman to come to course 270 at the same time AR reduces speed (photo taken of Scarnow turn and the start of the Anderson turn)

The next manoeuvre they perform is the Anderson turn. The quickest way to reach the mob but a problem for larger vessels as they have less manoeuvrability. AR resets the sim. Mob starboard side. AR gives the command hard starboard. He asks the cadets what the heading will be when he gives the command for midship. Some say 160 others say +215. He also told them to note the weather conditions when they are performing this manoeuvre. Once they reach 160 AR reduces speed to dead slow ahead. He asks them to maintain bearing of 10-15 degrees off the bow.

Break

After lunch, we meet back in the sim room. AR will now demonstrate the elliptical turn. He asks the helmsman to maintain the course 000. For some reason the helmsman reads that as starboard 18 and changes the course. AR is surprised and asks if he has had lunch. Everyone laughs. We maintain the course. AR increases the speed to full head. And goes out to shout mob - I

can't figure out why we didn't start with the manoeuvre already. But he has waited to change course before commencing with this procedure.

He gives the coo and hard starboard and asks them to time it. He asks them at what point will they call midship. They say 160. AR says that they will wait till the ship makes this point before the next procedure. As they reach 160 AR calls mid ship and asks the cadets at what point they will have the mob they answer – 3 points above beam. He asks the helmsman to reach heading 180. When he does, AR says steady. When it gets to 3 points above the beam AR gives hard starboard command. He asks the cadets at what time he will move rudder to midship now the cadets say 345-350. AR says that he will stop at 350. Once it reaches 345 he calls midship and reduces sleep to half ahead then to slow ahead then asks the helmsman to get to. 360 before slowing to dead slow ahead. He says that as captains they will need to know when to use each manoeuvre.

They then move onto the zigzag manoeuvre. He asks them when they can use the zigzag manoeuvre. Procedure for zigzag manoeuvre. He shows them on the White board the 10-degree manoeuvre - starboard 10 when it reaches 10 then move to port 10 continue this way. They have to time the sequence and note it down. They have to account for rot and when the rot reaches. 000 then they will stop clock. They are also introduced to the yaw rate. They also have to account for overshoot angle. He says that the data they get will be different from when the ships sea trial took place. This is done during the sea trial with presence of owner, captain, yard representative. AR says that he has experienced this ma few times. There are lots of people on the bridge. They use a zigzag manoeuvre also to evade pirates but the original function is to check the effectiveness of the rudder. There is another manoeuvre called rudder cycling. While the zigzag manoeuvre goes to 10 or 29 degrees' rudder cycling goes from hard to hard,

He moves ship to half then full ahead. The most important thing is to remember the time to the next heading the yaw rate and the overshoot angle all this information will tell them the effectiveness of the rudder. From 000 to 010 and from 010 to 000 that is one cycle as is 000 to 350 and from 350 to 000. They are waiting for ship to reach optimum speed for manoeuvrability. They reach it and start. When the heading reaches 000 they mark, then they wait for it to reach 350 they mark, then AR says shift your rudder. They wait for the rot to become 0 and note the heading it's 348 - 2 degrees. Mark, then again, they wait for it to get to 000 and mark. Then they wait for it to reach 010 mark. Shift your rudder. Helmsman - shift my rudder. Rudder port 10 now sir. Mark! Then again, they wait for it to reach 000. Then standby heading 350 shift your rudder, mark. Then they wait for rot to get to 0, again it's a 2-degree overshoot. They perform the procedure 3 times for each side. AR says the rudder is efficient always 2 degrees on each side. We all head out of the sim room. They note the times for each half cycle from 000 to 010 time from 010 to rot of 0 and degree. And from 000 to 350 same. They then take the average time and if they know the overshoot angle then to get to 010 then they should actually shift rudder at 008. And it will take then 22 seconds to make that change. This is only for full manoeuvring speed at open sea. And it gives them an idea of how the ship handles.

Next manoeuvre is the emergency run, slow down, shut down. The speed is on navigational full. This manoeuvre is used to bypass a system stop. For example, in a situation where a collision is imminent and the engine has a problem so the system stops. They have to give the acknowledgement and use the bypass command. They are warned over and over again not to use this one unless there no other option the idea is for them to know what the use of the bypass button is if they are asked by port control, or by the captain or anyone else. Practice good situational awareness. He asks them

to call the master. But he also asks them not to call the master at all times. They are going on board as 2nd officer or 3rd officer because they have been training for that position.

Next manoeuvre exercise is rudder cycling. Rudder cycling is 80% faster to stop than normally stopping the vessel. But they must be careful when using this in the harbour because of less manoeuvrable space. Again, they wait to get to full manoeuvrable speed. He says that the speed will not increase in the time they have. So, they start. And he says he will demonstrate. Hard starboard. The speed reduces fast. Then AR says shift your rudder. Rudder hard to port now sir. The speed drops again. Shift your rudder. The rudder does hard to starboard. The speed drops even more. Each time the rudder is shifted the AR reduces the speed.

After break, each group will perform 1 man over board turn. As there are still 10 mins group 1 performs the turn. I stay back to watch the group perform. Steady on course 010. The speed is full head. AR will be the boatswain, calling bridge to inform that there is a mob. The lo says mob starboard side. The officer on watch gives command hard starboard, helmsman, hard starboard now sir. The officer on watch asks the helmsman to report heading 10 degrees. The lo says that the target is now visible on starboard bow. The officer on watch says report every 20 degrees. The helmsman confirms. I think they are performing the Anderson turn. The target is constantly in sight. The look out says that the target is spotted 3 points above starboard beam. He also advises that at 260 they should start reducing speed. At 260 officer on watch says midship. And reduces speed to half ahead. Then own gives command starboard 10. Look out says bearing of target is 023 degrees. Officer on watch acknowledges and gives command starboard 10. Officer on watch says stead on course 288. The engines are stopped. The target is by beam now. The exercise is paused.

AR says that in real life they should stop engines 2 cables away from casualty so by the time they reach the target the speed is 0

MV Sea Line Field Note Sample

Day 3 Port of Rotterdam
02.08.15

I woke up at 7:00 am, and got ready. I had forgotten to ask the 2o the day before what time breakfast was, and just as I was about to skip breakfast and wait for lunch. I got a call from the Captain saying that he was worried about not seeing me, and the officers had also stated that 'they hadn't seen the lady around.' The Captain said that the cook was waiting for me for breakfast, it was usually between 7-8 but today they would make an exception for me. I headed down for breakfast. The cook greeted me and I asked what was for breakfast. I was given the choice between fried eggs and cereal and not wanting to give the cook more work, I opted for cereal and a made myself a much-needed cup of coffee. After breakfast, I headed back up to my room and started organizing my notes for the upcoming work. Around 10:30, I got a call from the 2nd officer (2O), he said that if I was free now, he would conduct the shipboard familiarization and I should meet him in the officer's mess.

We met in the officer's mess, and he explained that I would need my helmet and Hi-Viz jacket for going on deck. I went back up to the room to get these things; they had been given to me the day before. We headed down 1 floor, I was reprimanded by the 2o in a good-natured way for running down the stairs, he said that it could cause an accident. The first

room we went into was just on this side of the main exit to the deck. It was the officer's room where they could put on their overalls and working gear before heading out on the deck. The 2O stated that the Captain keeps the accommodation area like a home, and so is very particular about cleanliness on board. Hence the room, similar to a mud room at home, so take over the dirty overalls. Once correctly kitted, we headed outside, the 2O states that because of security reasons, they have to ensure that there is only one entrance to the accommodation area, and this is it. There is a code required to enter the place. He then takes me to the port side of the deck, past the gangway where I entered the other day and explains that the Ship operates on MarSec (Marine Security) Level 1 i.e. normal security level. There are 3 Mar Sec levels – Level 1, normal, Level 2, Heightened Security, Level 3 (unheard of) highest security protocol level e.g. security threat in port, or on another ship in port. Because of her route (mainly Europe) the MV Sea-Line is on the lowest security level. But there is still someone on the gangway keeping watch when it is lowered.

He points out the fire hydrants and hoses and we make our way to the forward mooring station, the helm of the ship. Here below the mooring station, they have the paint stores; the Boatswain's stores which is meticulously clean, and the CO_2 chamber as well. These are all enclosed spaces and proper care, safety checks and gear must be worn before entering them. Next, we climb up to the mooring station. The 2o points out the yellow markings on the which mark the no go zones, being too close to the ropes when they are being pulled or released can cause severe injuries. He also says that the ship's anchors are based here, which is why this station looks different from the aft station. He also points out the life raft explaining how to release it. This one is a 6-person life raft. We head back down to the deck, this time heading to the starboard side. He points out the hatches through the holes in the side, again these are to be treated as enclosed spaces, the ship is structured for cargo optimisation. Hence there

are enclosed hatches as well as the deck which can be used to store the cargo. The 2o points out the bunker station where the bunkering is done, As well as the other safety equipment on the deck. We then head to the aft station. As we head there I ask him where the muster station is, in case of emergency. The 2o is the safety and security officer on board. Hence the emphasis on the safety equipment, which is an essential part of the familiarisation, especially for someone like me who doesn't have the necessary training. He states that's it's a good and important question and he will show me. He points out the aft station and the life raft kept there, this one with a capacity for 20 persons. We then head over to the next deck up one flight of stairs, which is has the garbage disposal and segregation. The next deck up has the muster station and two lifeboats, one that has to be lowered and the 19-person free fall life boat. 2o shows me how the lifeboat operates, we head inside it, and he shows me how to switch it on and release it. From here we head up another flight of stairs, which lead us to the Bridge wings. He says that because he is wearing the overalls and safety boots, he cannot go inside, so we head back down the way we came up, change out of the safety gear and head up inside the accommodation. Here we go up each flight of stairs and he gives me a small tour around. The first deck has the officer and the crew mess, with the kitchen in the middle. The officer mess is to the left and the crew mess is to the right. I sit with the officers in the officer's mess, there is a window where you can see through to the other side, this is where you take the food and leave the plates. There is a glass jar of instant coffee and sugar along with a kettle on the side table safety, good work practices as well as incident reports placed on the wall. There is also a television screen, a coffee table and sofa, with a game of black gammon kept to one side. On a book shelf, there are folders.

The next deck up Deck A has a conference room, and crew accommodation, the next deck up is where I stay along with the some of the crew, the boatswain and the 2nd Eng. The deck C has the 2o, the CO, the

passenger room, as well as a laundry/ rec room. The next deck has the captain and the CE, before we head up to the Bridge. We head up to the Bridge, and the 2o points out the safety plan drawings at the entrance, before heading inside. There he gives me a tour of the bridge. The bridge is a long rectangular room. In the center is the main control station with two chairs, positioned high enough to see over the controls. There is a cupboard behind the control center and two exits one on the inside and one that we saw from the outside. On each side of the bridge there are two doors with small balcony structure called bridge wings. The main control center hosts the gyro, the radar, the ECDIS as well as the other navigational equipment. On the right side of this there are two smaller stations, right against the door in a corner there is a coffee machine and a sink. Next to that there is the chart room, which the 2o calls his domain. In front of that there is a computer and a desk. The front of the bridge has large glass windows equipped with wipers. On the far-left hand side you have the communication, or the GMDSS equipment. The 2o points out the equipment and then shows me the safety gear stored here, there are 2 life jackets, two emersion suits, breathing apparatus, as well as all the distress signals such as the flares, the pyro-techniques and the GPS radar locator that releases if the ship sinks to let people know its location. He also shows me that the Bridge has microphones, which record everything into the equivalent of an airplane black box.

Once the tour of the ship is finished I head down for lunch and then write up the preliminary notes. At 5 pm I head down for dinner, the chief mate is there for dinner along with the chief engineer and 2nd engineer, everyone wishes each other good evening and good appetite, but there isn't much conversation, I don't know if this is normal, or due to my presence. After the engineers leave, the CO and I have a brief conversation. He is from St Petersburg in Russia and can't wait to go home to see his family and especially his children. He says initially his son would miss him, but now

he doesn't ask so much and that worries him. I tell him about my father and his sailing days a bit, saying that my sister didn't know who my dad was when we went to pick him up from the airport. We chat for a while longer and I ask him what would be the best time to call the Captain. He says that he should be in his room now. After dinner, I head back up to my room and call the Captain, asking him if he is free for a chat either this evening or tomorrow. He states that there is Marine Superintendent coming this evening and he will be a bit busy but he will give me call. I read for a while before going to bed.

Appendix C Data Source Tables

Data Source Table – Formal Observation Sessions at Crewco Head office and Crewco Training Center

#	Date	Research Method	Details	Hours	Role of Researcher
1	13/01/15	Observation	Notes taken - Day 1 Crewco Office meeting with Captain W+ Meeting with Captain W, M and S	9	Participant
2	14/01/15	Observation	Seaways Magazine, Meeting with Captain W+ Talk with M	9	Participant
3	15/01/15	Observation	Meeting with Captain W+S+ observations	9	Participant
4	16/01/15	Observations	Meeting with S	4	Participant
5	27/01/15	Observation	Ship-Simulator & Bridge-Teamwork with Bridge Resource Management	7	Non-Participant Observer
6	28/01/15	Observation	Stability and Trim	7	Non-Participant Observer
7	29/01/15	Observation	SSBT with BRM- Simulator session	7	Non-Participant Observer
8	30/01/15	Observation	Ship Technique and Technology	3.5	Non-Participant Observer
9	02/02/15	Observation	Practical Bridge Watchkeeping Day 1	7	Non-Participant Observer
10	03/02/15	Observation	Practical Bridge Watchkeeping Day 2	3.5	Non-Participant Observer
11	04/02/15	Observation	3rd block - Cargo Handling and Stowage	1.5	Non-Participant Observer
12	04/02/15	Observation	HAZAMAT- O	5.5	Non-Participant Observer
13	05/02/15	Observation	Progressive Leadership 2	3.5	Non-Participant Observer

14	06/02/15	Observation	Practical Bridge Watchkeeping Day 4	4.5	Non-Participant Observer
15	09/02/15	Observation	Ship-Security Awareness and Seafarers with designated security duties	3.5	Non-Participant Observer
16	11/02/15	Observation	Collision Regulations	5.5	Non-Participant Observer
17	12/02/15	Observation	Ship Handling	5.5	Non-Participant Observer
18	13/02/15	Observation	Maritime Law	3.5	Non-Participant Observer
19	16/02/15	Observation	ECDIS	3.5	Non-Participant Observer
20	18/02/15	Observation	Passage planning technique and nautical publication	3.5	Non-Participant Observer
21	23/02/15	Observation	ISM-O	3.5	Non-Participant Observer
22	23/02/15	Observation	Technical Navigation	2	Non-Participant Observer
23	25/02/15	Observation	MRM- crew	5.5	Non-Participant Observer
24	03/03/15	Observation	GSPCI	3.5	Non-Participant Observer
25	06/03/15	Observation	Ballast Water Management	3.5	Non-Participant Observer
26	09/03/15	Observation	Senior Management Training	3.5	Non-Participant Observer
27	10/03/15	Observation	Senior Management Training	7	Non-Participant Observer
28	17/03/15	Observation	Seamanship Theory	3.5	Non-Participant Observer
29	25/03/15	Observation	Pre-Departure Briefing for Crew-	3.5	Non-Participant Observer
30	28/03/15	Observation	Soft Skill training	1.5	Non-Participant Observer
31	28/04/15	Observation	Immersion Course - Demo Teaching	5.5	Non-Participant Observer

Data Source Table - MV Sea-Line Observations

#	Date	Research Method	Details	Hours	Role of Researcher
1	01/08/15	Observation	Arrival in Rotterdam	8	Non-Participant Observer
2	02/08/15	Observation	Embarkation	2.5	Non-Participant

					Observer
3	03/08/15	Observation	Layby Port of Rotterdam	1	Non-Participant Observer
4	04/08/15	Observation	Layby Port of Rotterdam	1.5	Non-Participant Observer
5	05/08/15	Observation	Layby Port of Rotterdam	1	Non-Participant Observer
6	06/08/15	Observation	Layby Port of Rotterdam	1	Non-Participant Observer
7	07/08/15	Observation	Layby Port of Rotterdam	2	Non-Participant Observer
8	08/08/15	Observation	At Sea	1	Non-Participant Observer
9	09/08/15	Observation	At Sea	1.5	Non-Participant Observer
10	10/08/15	Observation	Port of Gijon	2	Non-Participant Observer
11	11/08/15	Observation	Port of Bilbao	2.5	Non-Participant Observer
12	12/08/15	Observation	At Sea	2	Non-Participant Observer
13	13/08/15	Observation	Port of Le Havre	2	Non-Participant Observer
14	13/08/15	Observation	At Sea	1.5	Non-Participant Observer
15	14/08/15	Observation	At Sea	1	Non-Participant Observer
16	15/08/15	Observation	Port of Rotterdam	1	Non-Participant Observer
17	16/08/15	Observation	At Sea	2	Non-Participant Observer
18	17/08/15	Observation	Port of Gijon	2	Non-Participant Observer
19	18/08/15	Observation	Port of Bilbao	2	Non-Participant Observer
20	19/08/15	Observation	At Sea	1	Non-Participant Observer
21	20/08/15	Observation	Port of Le Havre	1	Non-Participant Observer
22	21/08/15	Observation	At Sea	2.5	Non-Participant Observer
23	22/08/15	Observation	Port of Rotterdam	1.5	Non-Participant Observer
24	23/08/15	Observation	Port of Rotterdam	1.5	Non-Participant Observer
25	24/08/15	Observation	At Sea	0.5	Non-Participant Observer
26	25/08/15	Observation	At Sea	0.5	Non-Participant Observer
27	26/08/15	Observation	Port of Gijon	1	Non-Participant Observer

28	27/08/15	Observation	Port of Bilbao	2	Non-Participant Observer
29	28/08/15	Observation	At Sea	1	Non-Participant Observer
30	29/08/15	Observation	Port of Le Havre	2	Non-Participant Observer
31	30/08/15	Observation	At Sea	1	Non-Participant Observer
32	31/08/15	Observation	Disembarkation	0.5	Non-Participant Observer

Data Source Table – Interviews at Crewco

#	Date	Interview Type	Rank	Length of interview (in mins.)
1	03/02/15	Semi Structured Interview	Second Officer / Left COP	48.32
2	03/02/15	Semi Structured Interview	Second Officer / Left COP	48.32
3		Semi Structured Interview	Second Officer / Left COP	56.44
4	09/02/15	Semi Structured Interview	Cadet 3rd Block	51.20
5	09/02/15	Semi Structured Interview	Cadet 3rd Block	59.22
6	10/02/15	Semi Structured Interview	Cadet 2nd Block	40.02
7	10/02/15	Semi Structured Interview	Cadet 2nd Block	66.04
8	11/02/15	Semi Structured Interview	Cadet 2nd Block	60
9	11/02/15	Semi Structured Interview	Cadet 2nd Block	37.39
10	12/02/15	Semi Structured Interview	Cadet 2nd Block	61.3
11	12/02/15	Semi Structured Interview	Cadet 2nd Block	42.22
12	13/02/15	Semi Structured Interview	Cadet 1st Bock	35.57
13	13/02/15	Semi Structured Interview	Cadet 1st Bock	39.15
14	02/03/15	Semi Structured Interview	2/o + Training Officer In charge	67.05
15	18/03/15	Semi Structured Interview	Captain+ Senior Operations Manager	72.06
16	30/03/1	Semi Structured Interview	Chief Officer	69.56

	5			
7	23/04/15	Semi Structured Interview + ITTD	Captain	79.23
18	20/04/15	Semi Structured Interview + ITTD	3rd Officer	47.46
19	17/04/15	Semi Structured Interview + ITTD	3rd Officer Junior	33.49
20	21/04/15	Semi Structured Interview + ITTD	Second Officer	51.37
21	16/04/15	Semi Structured Interview + ITTD	3rd Officer Junior	26.33
22	17/04/15	Semi Structured Interview + ITTD	4th Officer Junior	52.03
23	28/04/15	Semi Structured Interview + ITTD	3rd Officer	60.45
24	12/05/15	Semi Structured Interview + ITTD	Training Consultant	108.49

Data Source Table - Interviews on MV Sea-line

#	Date	Interview Style	Rank	Length of interview (in mins.)
1	08/08/15	Semi Structured Interview	Captain	22
2	08/08/15	Semi Structured Interview	Captain	81
3	17/08/15	Semi Structured Interview	Chief Officer	110.25
4	29/08/15	Semi Structured Interview	Second Officer	38
5	16/08/15	Semi Structured Interview	Deck Cadet 1	51.33
6	29/08/15	Semi Structured Interview	Deck Cadet 2	42.38
7	28/08/15	Semi Structured Interview	Boatswain	89.39
8	16/08/15	Semi Structured Interview	AB	22
9	20/08/215	Semi Structured Interview	OS	24.20
10	28/08/15	Semi Structured Interview	OS 2	35.52
11	30/08/15	Semi Structured Interview	Chief Engineer	44.28
12	30/08/15	Semi Structured Interview	Second Engineer	32.37
13	20/08/15	Semi Structured Interview	Wiper	33.33
14	04/08/15	Semi Structured Interview	Marine Superintendent	32.46